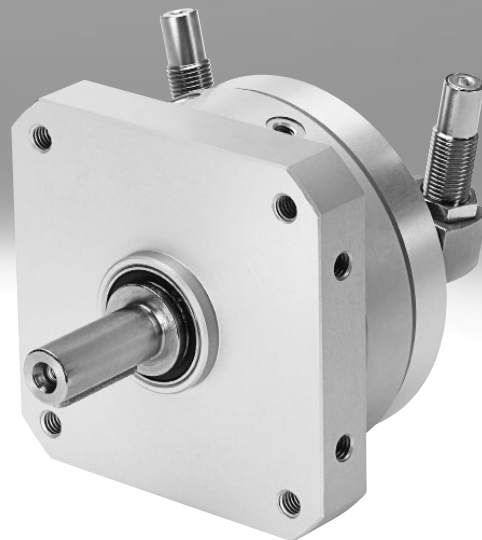


Semi-rotary drives DSM/DSM-B

FESTO



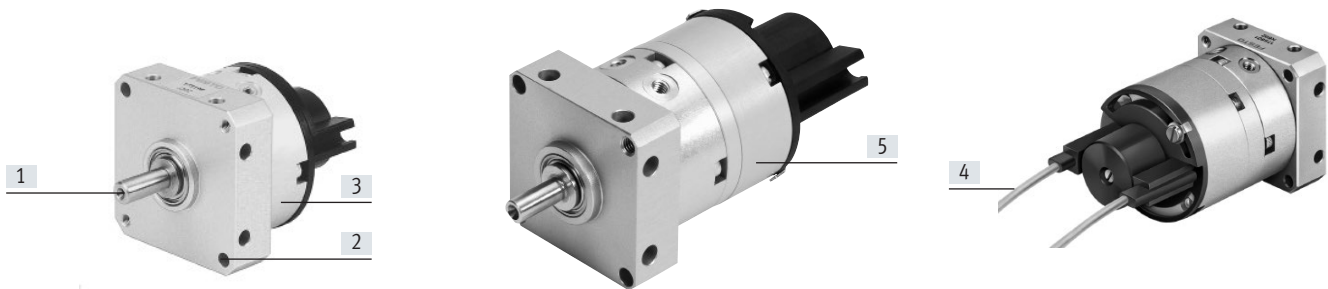
Characteristics

At a glance

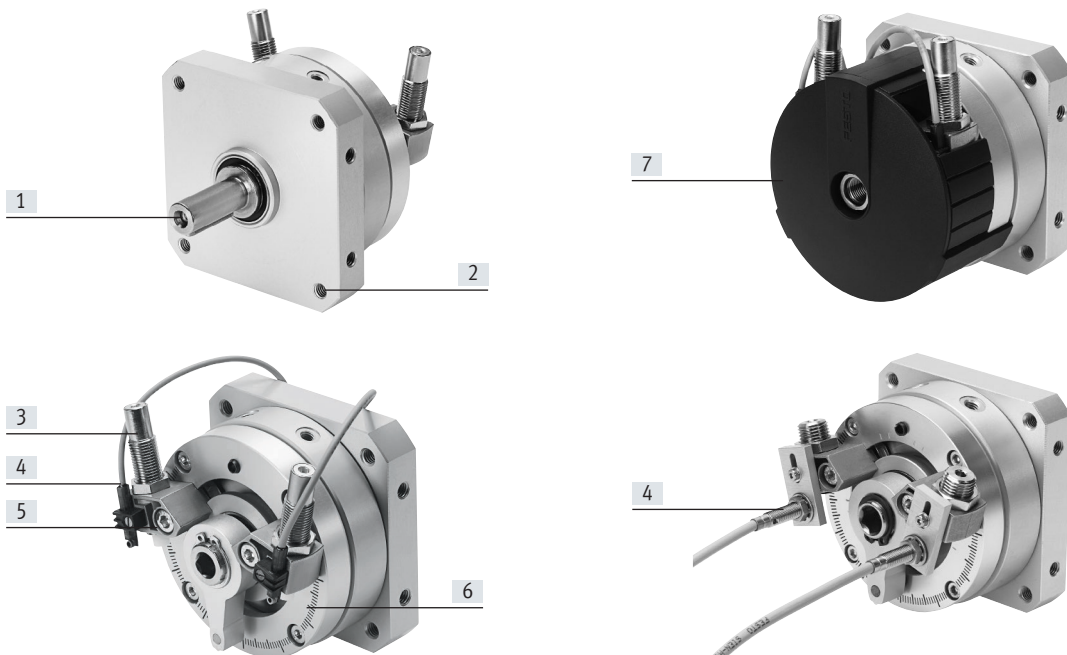
- Double-acting semi-rotary drive with vane
- The swivel angle is infinitely adjustable over the entire swivel range
- High precision thanks to metal fixed stops
- Polyurethane ensures a long service life for the rotary vane and sealing system
- Easy precision adjustment of the end positions using the cushioning components
- The mechanical gearing between the stop element and the semi-rotary drive prevents movement of the stop system under load
- Torques of up to 80 Nm with tandem rotary vanes in combination with multi-tooth shaft

The technology in detail

Size 6 ... 10



Size 12 ... 63



[1] Interface

Choice of:

- Spigot shaft
- Flange shaft

[2] Wide range of mounting options

[3] Cushioning with size 6 ... 10: elastic cushioning components with metal fixed stop (P)

Cushioning with size 12 ... 63:

Three types of cushioning, with metal fixed stop:

- Elastic cushioning components (P)
- Adjustable, elastic cushioning components (P1)
- Hydraulic shock absorbers (CC)

[4] Position sensing

- With size 6 ... 10: SME/SMT-10
- With size 12 ... 40: SME/SMT-10 or SIEN
- With size 63: SME/SMT-8

[5] Precision adjustment of the end positions: the end positions can be very accurately adjusted by moving the stops

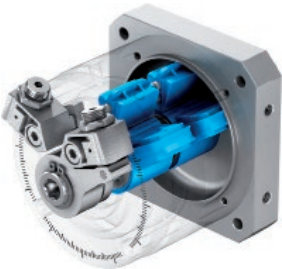
[6] Angle scale: the required swivel angle can be easily preset using the scale

[7] The cover cap prevents unwanted interference in the swivel motion and reduces the risk of injury

Characteristics

Wide choice of variants

DSM-T-...: semi-rotary drive with tandem rotary vanes



Torques of up to 80 Nm can be achieved by having two rotary vanes on the multi-tooth shaft.

The functionality corresponds to that of the DSM without tandem rotary vanes:

- Infinitely adjustable swivel angle
- Identical interfaces
- Identical accessories

DSM-...-HD: semi-rotary drive with heavy-duty bearing



Backlash-free, preloaded, high-quality bearing elements allow very high load torques and very precise bearing with high running accuracy.

The functionality corresponds to that of the DSM-B without heavy-duty bearing:

- Infinitely adjustable swivel angle
- Identical mounting interfaces
- Identical accessories

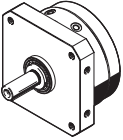
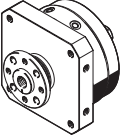
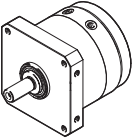
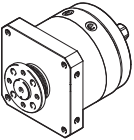
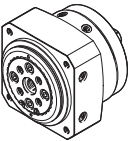
Choice of two cushioning types:

- Cushioning P1 and CC

Product range overview

Characteristic values of the semi-rotary drives

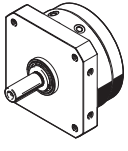
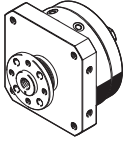
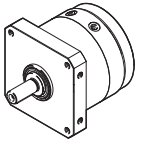
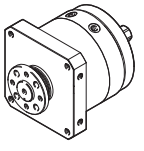
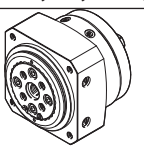
The specifications shown in the table are maximum values. The precise values for each of the sizes can be found in the relevant data sheet in the catalogue.

| Design | Type | Size | Swivel angle [°] | Torque [Nm] | Axial force [N] | Radial force [N] |
|--|--------------|------------------------|------------------|-------------|-----------------|------------------|
| Spigot shaft | | | | | | |
|  | DSM-... | 6, 8, 10 | 90, 180 | 0.85 | 10 | 30 |
| | | 10 | 240 | | | |
| | | 12, 16, 25, 32, 40, 63 | 270 | 40 | 500 | 500 |
| | | 12, 16, 25, 32 | 246 | | | |
| | | 40, 63 | 240 | | | |
| Flange shaft | | | | | | |
|  | DSM-...-FW | 6, 8, 10 | 90, 180 | 0.85 | 10 | 30 |
| | | 10 | 240 | | | |
| | | 12, 16, 25, 32, 40, 63 | 270 | 40 | 500 | 500 |
| | | 12, 16, 25, 32 | 246 | | | |
| | | 40, 63 | 240 | | | |
| Tandem rotary vanes and spigot shaft | | | | | | |
|  | DSM-T... | 6, 8, 10 | 90, 180 | 1.7 | 10 | 30 |
| | | 10 | 240 | | | |
| | | 12, 16, 25, 32, 40, 63 | 270 | 80 | 500 | 500 |
| | | 12, 16, 25, 32 | 246 | | | |
| | | 40, 63 | 240 | | | |
| Tandem rotary vanes and flange shaft | | | | | | |
|  | DSM-T-...-FW | 6, 8, 10 | 90, 180 | 1.7 | 10 | 30 |
| | | 10 | 240 | | | |
| | | 12, 16, 25, 32, 40, 63 | 270 | 80 | 500 | 500 |
| | | 12, 16, 25, 32 | 246 | | | |
| | | 40, 63 | 240 | | | |
| Heavy-duty bearing | | | | | | |
|  | DSM-...-HD | 12, 16, 25, 32, 40, 63 | 270 | 40 | 1300 | 1800 |
| | | 12, 16, 25, 32 | 246 | | | |
| | | 40, 63 | 240 | | | |

Product range overview

Characteristic values of the semi-rotary drives

The specifications shown in the table are maximum values. The precise values for each of the sizes can be found in the relevant data sheet in the catalogue.

| Design | Cushioning | | | Adjustable swivel angle | Position sensing | → Page |
|---|------------|-----------------|----|-------------------------|------------------|--------|
| | P | P1 | CC | | | |
| Spigot shaft | | | | | | |
|  | ■ | – | – | ■ | ■ | 8 |
| | ■ | – | – | ■ | ■ | |
| | ■ | – | – | ■ | ■ | 24 |
| | – | ■ | ■ | ■ | ■ | |
| | – | ■ | ■ | ■ | ■ | |
| Flange shaft | | | | | | |
|  | ■ | – | – | ■ | ■ | 8 |
| | ■ | – | – | ■ | ■ | |
| | ■ | – | – | ■ | ■ | 24 |
| | – | ■ | ■ | ■ | ■ | |
| | – | ■ | ■ | ■ | ■ | |
| Tandem rotary vanes and spigot shaft | | | | | | |
|  | ■ | – | – | ■ ²⁾ | ■ ³⁾ | 8 |
| | ■ | – | – | ■ ²⁾ | ■ ³⁾ | |
| | ■ | – | – | ■ | ■ | 24 |
| | – | ■ ¹⁾ | ■ | ■ | ■ | |
| | – | ■ ¹⁾ | ■ | ■ | ■ | |
| Tandem rotary vanes and flange shaft | | | | | | |
|  | ■ | – | – | ■ ²⁾ | ■ ³⁾ | 8 |
| | ■ | – | – | ■ ²⁾ | ■ ³⁾ | |
| | ■ | – | – | ■ | ■ | 24 |
| | – | ■ ¹⁾ | ■ | ■ | ■ | |
| | – | ■ ¹⁾ | ■ | ■ | ■ | |
| Heavy-duty bearing | | | | | | |
|  | – | – | – | ■ | ■ | 24 |
| | – | ■ | ■ | ■ | ■ | |
| | – | ■ | ■ | ■ | ■ | |

1) The cushioning type P1 can be ordered as an accessory (→ page 53).

2) The stop kit (adjustable swivel angle) can be ordered as an accessory (→ page 54).

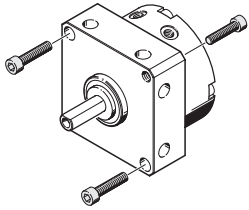
3) The mounting kit (for position sensing) can be ordered as an accessory (→ page 54).

Characteristics

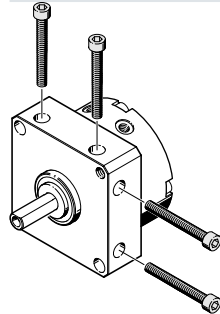
Mounting options

Size 6 ... 10

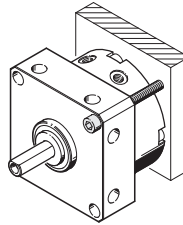
Via threaded through-hole/
through-hole



Via through-hole, lateral

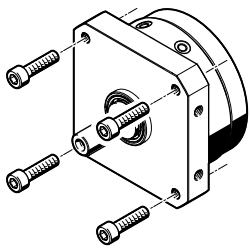


Via thread, lateral

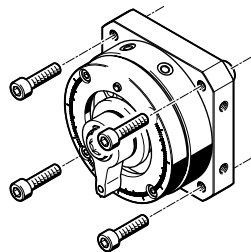


Size 12 ... 63

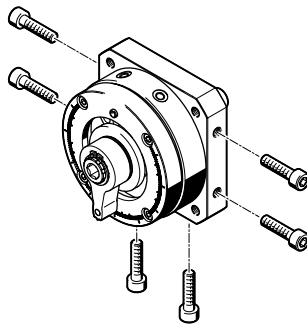
Via threaded through-hole



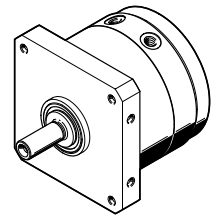
Via through-hole



Via thread, lateral

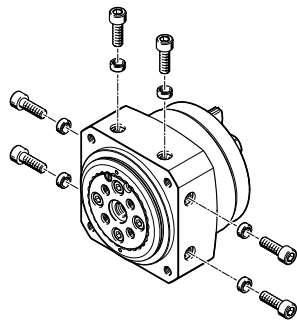


Centring via centring collar

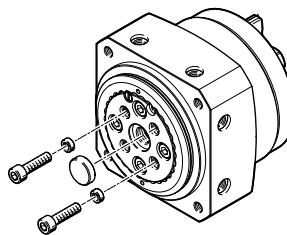


Special mounting options for DSM-...-HD

Via thread, lateral



Of attachments



Positive-locking connections possible
when using centring sleeves ZBH.

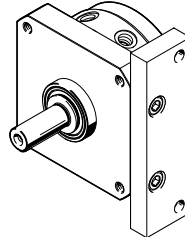
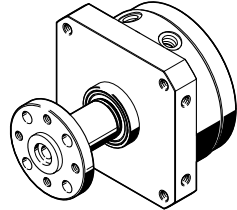
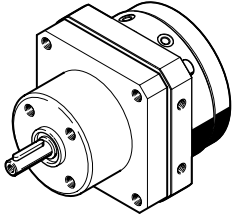
Characteristics

Accessories

Free wheel unit FLSM
Size 6 ... 40

Push-on flange FWSR
Size 6 ... 40

Mounting plate HSM
Size 12 ... 40

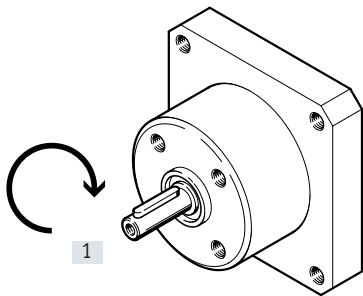


Direction of rotation in combination with free wheel unit FLSM

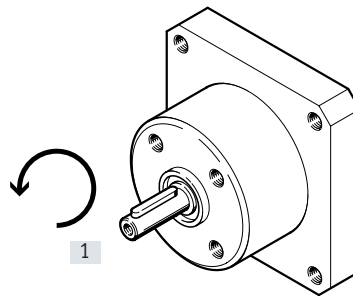
The free wheel unit only allows movement in one of the two possible swivel directions of the semi-rotary drive DSM. The reverse direction is blocked.

Dimensions and ordering data
→ page 49

FLSM-...-R, right-hand (clockwise) rotation



FLSM-...-L, left-hand (anticlockwise) rotation



[1] View towards drive shaft

Position sensor SRBS

The position sensor is used for sensing the end positions of semi-rotary drives DSM.

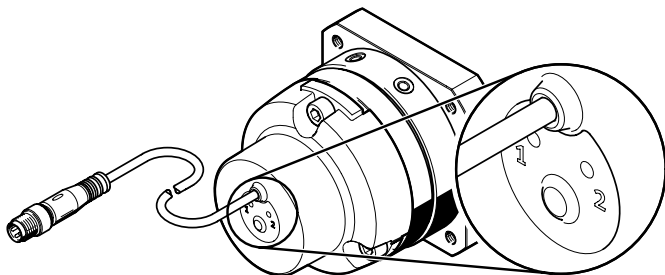
Sensing is done magnetically and contactless. Two switching points are output.

Characteristics:

- Quick assembly without having to manually search for switching points
- Simple and reliable operation using one pushbutton
- Only one connecting cable required
- Long service life thanks to sturdy and non-contacting position sensing

Technical data:

- Possible sensing range: 0 ... 270°
- Repetition accuracy: $\leq 1^\circ$
- 2 switching outputs (24 V)
- Switching output: PNP or NPN programmable
- Switching element function: N/O contact or N/C contact programmable



Type codes DSM-6 ... 10

| | |
|------------|-------------------|
| 001 | Series |
| DSM | Semi-rotary drive |

| | |
|------------|--------------------|
| 002 | Design type |
| | Standard |
| T | Tandem vane |

| | |
|------------|-------------|
| 003 | Size |
| 6 | 6 |
| 8 | 8 |
| 10 | 10 |

| | |
|------------|---------------------------------|
| 004 | Nominal swivel angle [°] |
| 90 | 90 |
| 180 | 180 |
| 200 | 200 |
| 240 | 240 |

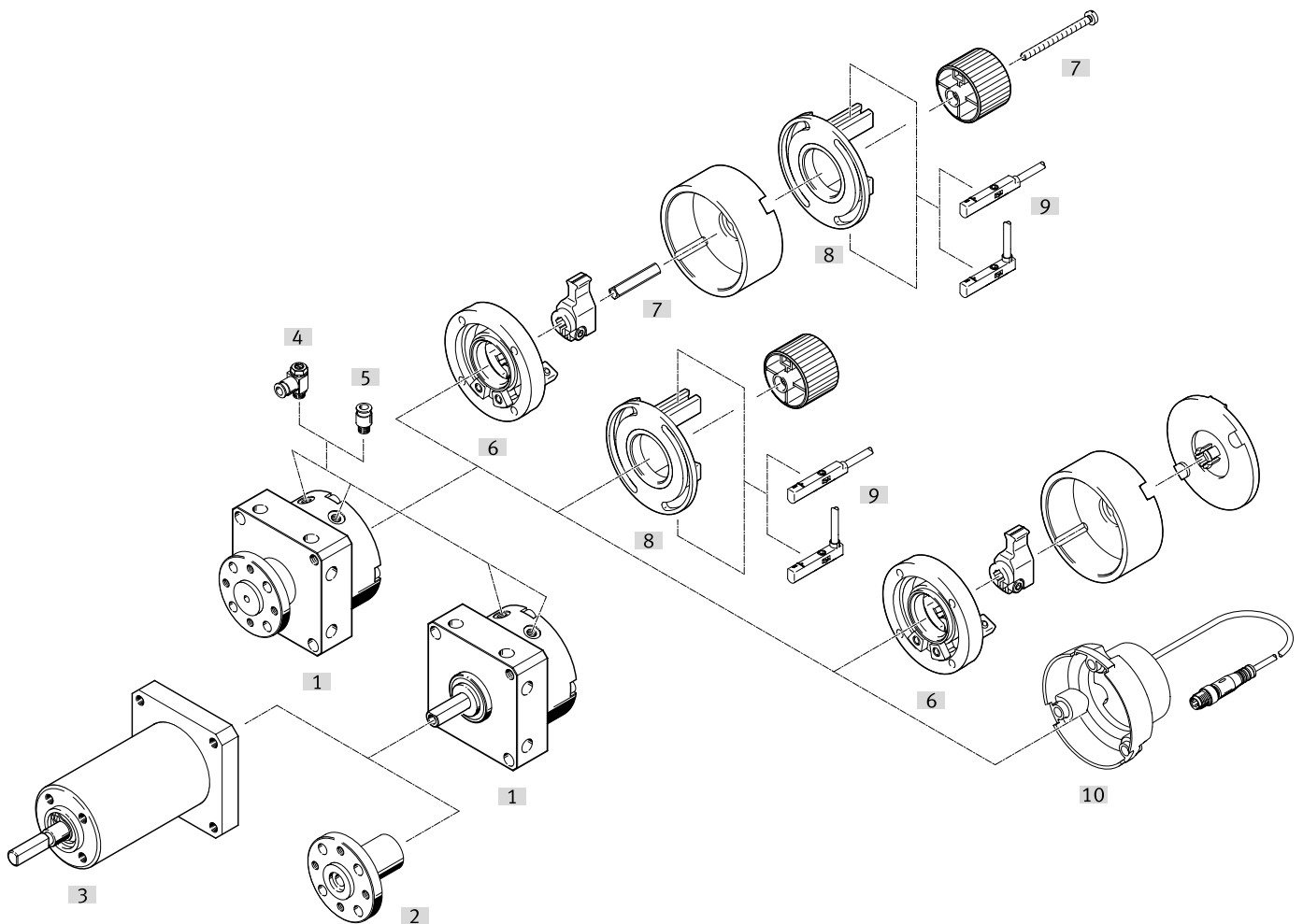
| | |
|------------|---|
| 005 | Cushioning |
| P | Elastic cushioning rings/plates on both sides |

| | |
|------------|-------------------------|
| 006 | Position sensing |
| | None |
| A | For proximity sensor |

| | |
|------------|--------------------------------|
| 007 | Adjustable swivel angle |
| | Fixed swivel angle |
| FF | Adjustable swivel angle |

| | |
|------------|---------------|
| 008 | Shaft |
| | Spigot shaft |
| FW | Flanged shaft |

Peripherals overview DSM-6 ... 10

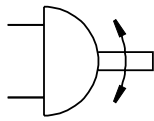


Peripherals overview DSM-6 ... 10

| Accessories | Description | → Page/Internet |
|--|---|-----------------|
| [1] Semi-rotary drive DSM | Drives with rotary vane | 10 |
| [2] Push-on flange FWSR | For retrofitting on semi-rotary drive DSM with spigot shaft | 51 |
| [3] Free wheel unit FLSM | <ul style="list-style-type: none"> • For indexed rotation in one direction • Only in combination with semi-rotary drive DSM with spigot shaft | 49 |
| [4] One-way flow control valve GRLA | For speed regulation | 56 |
| [5] Push-in fitting QS | For connecting compressed air tubing with standard O.D. | qs |
| [6] Stop kit KSM | <ul style="list-style-type: none"> • For adjusting the swivel angle • Can be retrofitted for semi-rotary drive DSM-...-P(-A)/DSM-...-P(-A)-FW • With DSM-T-..., the stop kit must be ordered separately as an accessory • Can be combined with mounting kit WSM • The adapter kit DADP-AK must also be ordered in combination with mounting kit WSM → page 54 | 54 |
| [7] Adapter kit DADP-AK | For attaching mounting kit WSM to stop kit KSM | 54 |
| [8] Mounting kit WSM-...-SME-10 | <ul style="list-style-type: none"> • For sensing the swivel angle • For mounting the proximity switches SME-/SMT-10 • Can be retrofitted for semi-rotary drive DSM-...-P(-FF)/DSM-...-P(-FF)-FW • The mounting kit must be ordered as an accessory with DSM-T-... • Can be combined with stop kit KSM • The adapter kit DADP-AK must also be ordered in combination with stop kit KSM → page 54 | 54 |
| [9] Proximity switches SME/SMT-10 | Proximity switches for sensing the end position | 54 |
| [10] Position sensor SRBS | <ul style="list-style-type: none"> • For sensing the swivel angle • No adjustment of the proximity switches required • The end positions of the swivel angle are taught in at the touch of a button • Can only be mounted directly on the semi-rotary drive, without other accessories • Must be ordered separately as an accessory | 53 |

Data sheet DSM-6 ... 10

Function



Size
6 ... 10



General technical data

| Size | 6 | 8 | 10 |
|--|--|-----------|-------------------|
| Pneumatic connection | M3 | | |
| Design | Rotary vane | | |
| Cushioning | Elastic cushioning rings/plates at both ends | | |
| Type of mounting | Via female thread | | |
| Mounting position | Any | | |
| Swivel angle | | | |
| DSM-... [°] | 90 or 180 | 90 or 180 | 90, 180 or 240 |
| DSM-...-FF [°] | 0 ... 180 | | 0 ... 200 |
| Max. swivel frequency at 6 bar [Hz] | 3 | | 3 (at 240°: 2 Hz) |
| Cushioning angle [°] | 0.5 | | |
| Air consumption at swivel angle of 90° and 6 bar ¹⁾ | | | |
| DSM-... [cm ³] | 0.6 | 0.7 | 5.5 |
| DSM-T-... [cm ³] | 1.2 | 1.4 | 11 |

1) Theoretical values

Operating and environmental conditions

| Size | 6 | 8 | 10 |
|---|---|-----------|-----------|
| Operating medium | Compressed air to ISO 8573-1:2010 [7:4:4] | | |
| Operating pressure | | | |
| DSM-... [bar] | 3.5 ... 8 | 3.5 ... 8 | 2.5 ... 8 |
| DSM-T-... [bar] | 4 ... 8 | 4 ... 8 | 3.5 ... 8 |
| Ambient temperature ¹⁾ [°C] | 0 ... +60 | | |
| Storage temperature [°C] | 20 | | |
| ATEX | Selected types → www.festo.com | | |
| CE marking (see declaration of conformity) | To EU Explosion Protection Directive (ATEX) | | |
| UKCA marking (see declaration of conformity) | To UK EX instructions | | |
| Explosion protection certification outside the EU | EPL Gb (GB) EPL Db (GB) | | |

1) Note operating range of proximity switches

Forces and torques

| Size | 6 | 8 | 10 |
|--|---------|--------|--------|
| Torque at 6 bar | | | |
| DSM-... [Nm] | 0.15 | 0.35 | 0.85 |
| DSM-T-... [Nm] | 0.3 | 0.7 | 1.7 |
| Max. permissible axial force on drive shaft ¹⁾ [N] | 10 | | |
| Max. permissible radial force on drive shaft ¹⁾ [N] | 15 | 20 | 30 |
| Max. perm. mass moment of inertia on drive shaft ²⁾ [kgm ²] | 0.00065 | 0.0013 | 0.0026 |

1) The axis of rotation and the centre of the drive shaft are the point of reference for the forces

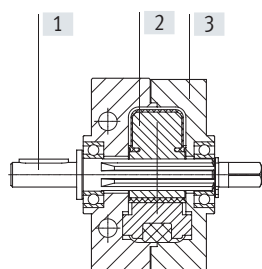
2) Maximum value; please see graphs starting on → page 12

Data sheet DSM-6 ... 10

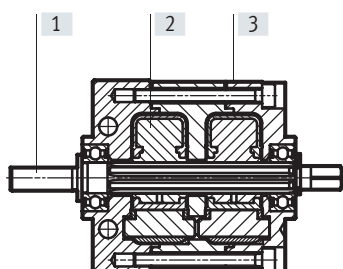
| Weight [g] | | | |
|---|----|-----|-----|
| Size | 6 | 8 | 10 |
| Spigot shaft | | | |
| DSM-...-P | 45 | 78 | 140 |
| DSM-...-P-A | 50 | 85 | 149 |
| DSM-...-P-FF | 70 | 140 | 240 |
| DSM-...-P-A-FF | 85 | 155 | 255 |
| Flange shaft | | | |
| DSM-...-P-FW | 51 | 85 | 150 |
| DSM-...-P-A-FW | 56 | 92 | 159 |
| DSM-...-P-FF-FW | 76 | 147 | 250 |
| DSM-...-P-A-FF-FW | 91 | 162 | 265 |
| Tandem rotary vanes and spigot shaft | | | |
| DSM-T-...-P | 60 | 110 | 200 |
| Tandem rotary vanes and flange shaft | | | |
| DSM-T-...-P-FW | 65 | 117 | 210 |

Materials

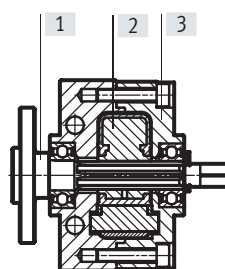
Sectional view
with spigot shaft
DSM-...



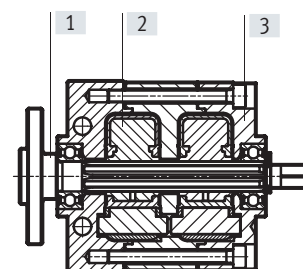
DSM-T-...



with flange shaft
DSM-...-FW



DSM-T-...-FW



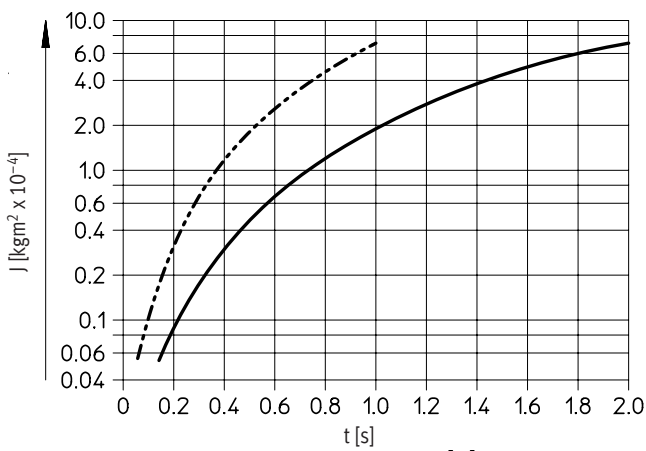
Semi-rotary drive

| | |
|------------------------|--------------------------------|
| [1] Shaft | High-alloy stainless steel |
| [2] Rotary vane | Glass fibre-reinforced plastic |
| [3] Housing | Anodised aluminium |
| - Screws | Galvanised steel |
| Seals | Polyurethane |
| Note on materials | RoHS-compliant |
| LABS (PWIS) conformity | VDMA24364-B1/B2-L |

Data sheet DSM-6 ... 10

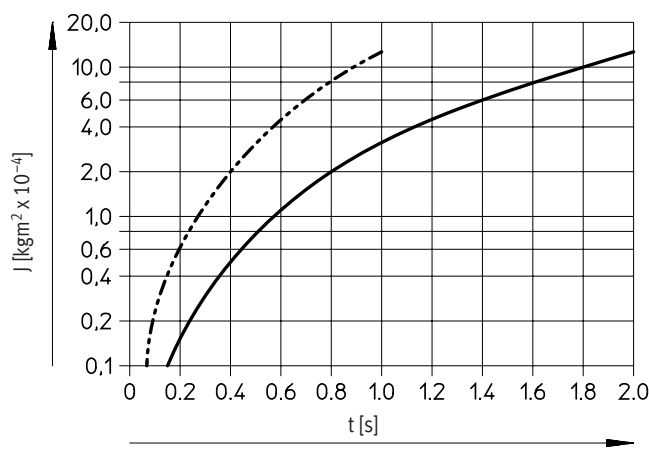
Mass moment of inertia J as a function of swivel time t

DSM-6



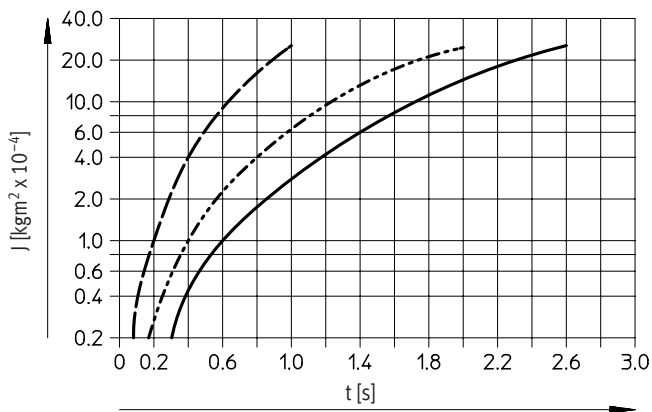
— 180°
 - - - 90°

DSM-8



— 180°
 - - - 90°

DSM-10



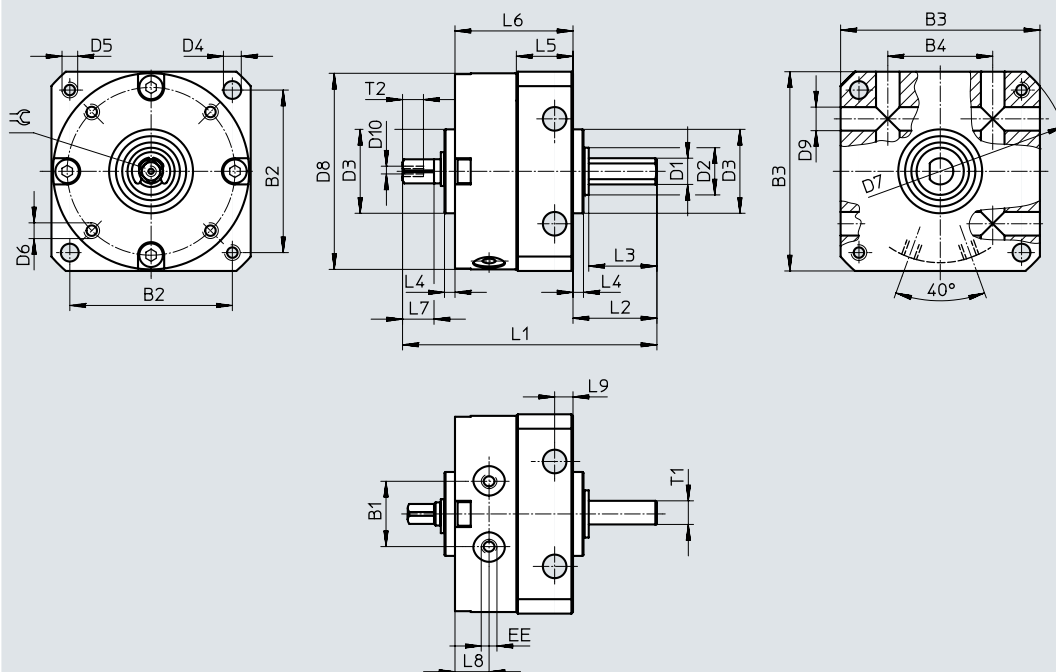
— 240°
 - - - 180°
 - · - 90°

Data sheet DSM-6 ... 10

Dimensions

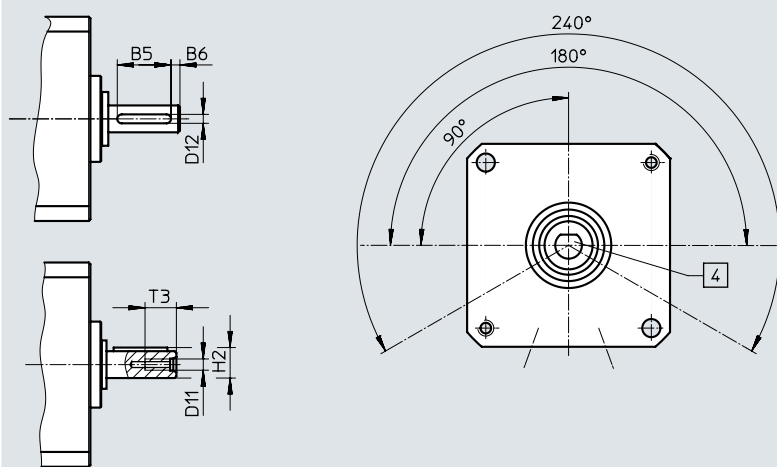
Download CAD data → www.festo.com

DSM-... – With spigot shaft



For DSM-10

Shaft position



- Note

For swivel angle tolerance → table below. The compressed air supply ports are at the bottom in this drawing.

| Size | B1 | B2 | B3 | B4 | D1 ∅ g7 | D2 ∅ | D3 ∅ f8 | D4 ∅ H12 | D5 | D6 | D7 ∅ H12 | D8 ∅ | D9 ∅ H12 | D10 | EE |
|------|------|----|----|----|---------------|---------|---------------|----------------|----|------|----------------|---------|----------------|------|----|
| 6 | 10 | 25 | 30 | 17 | 4 | 8 | 14 | 3.2 | M3 | M2 | 40 | 29.4 | 3.5 | M2 | M3 |
| 8 | 12.8 | 31 | 38 | 20 | 5 | 9 | 16 | 3.2 | M3 | M2.5 | 50 | 37.4 | 3.5 | M2 | M3 |
| 10 | 15.9 | 38 | 47 | 26 | 6 | 12 | 19 | 4.3 | M4 | M3 | 62 | 46.4 | 4.5 | M2.5 | M3 |

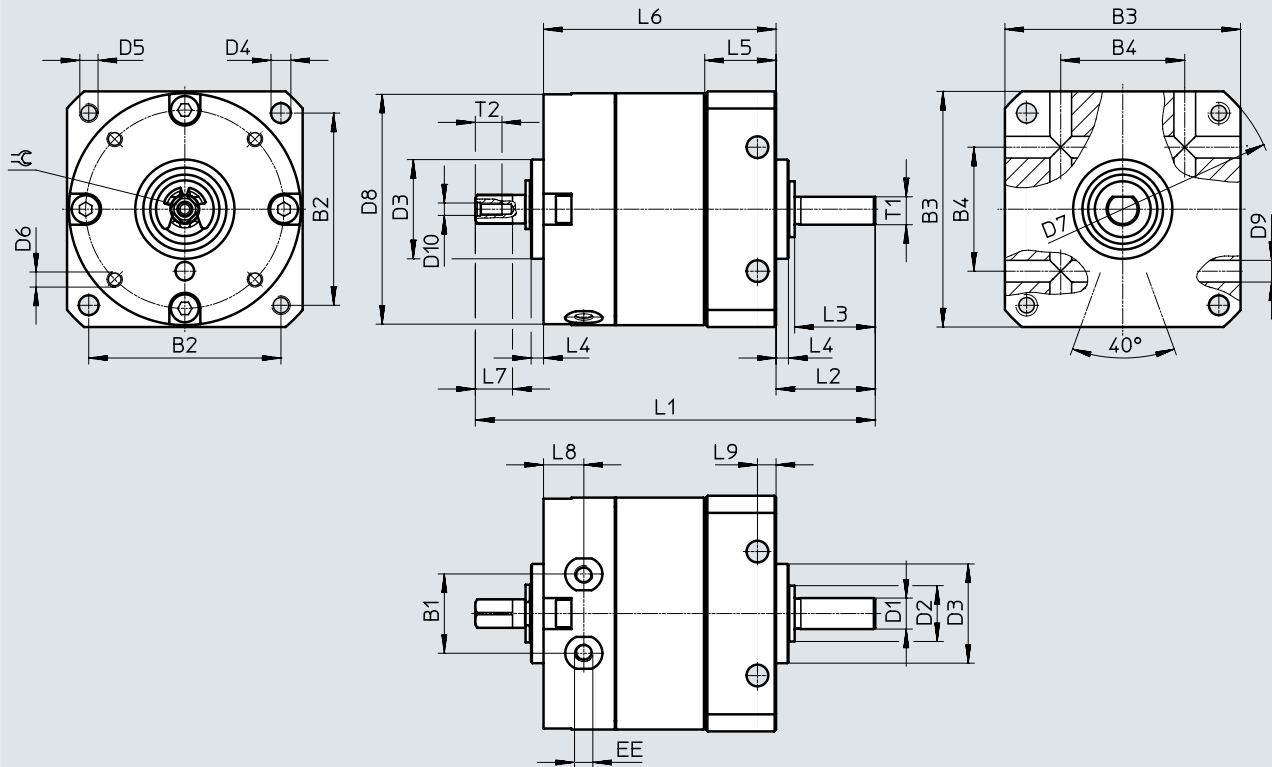
| Size | L1 | L2 | L3 | L4 | L5 | L6 | L7 | L8 | L9 | T1 | T2 h12 | ⊖ | Swivel angle tolerance |
|------|----|------|----|----|------|------|----|-----|----|-----|-----------|-----|------------------------|
| 6 | 43 | 13 | 10 | 2 | 9.8 | 21 | 5 | 6 | 3 | 3.5 | 4 | 3 | 0/+5° |
| 8 | 50 | 16 | 13 | 2 | 11.3 | 23 | 6 | 6.5 | 3 | 4.5 | 4.3 | 3.5 | 0/+5° |
| 10 | 61 | 19.6 | 16 | 2 | 14.3 | 28.4 | 8 | 7.5 | 4 | - | 5 | 4.5 | 0/+5° |

Data sheet DSM-6 ... 10

Dimensions

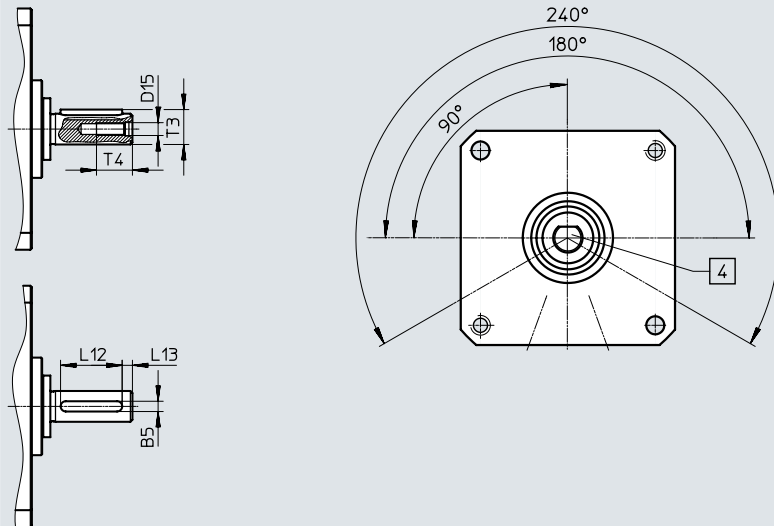
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DSM-T... – With spigot shaft and tandem rotary vanes



For DSM-T-10

Shaft position



Note
For swivel angle tolerance → table below. The compressed air supply ports are at the bottom in this drawing.

| Size | B1 | B2 | B3 | B4 | D1 ø g7 | D2 ø | D3 ø f8 | D4 ø H12 | D5 | D6 | D7 ø H12 | D8 ø | D9 ø H12 | D10 |
|------|------|----|----|----|---------------|---------|---------------|----------------|----|------|----------------|---------|----------------|------|
| 6 | 10 | 25 | 30 | 17 | 4 | 8 | 14 | 3.2 | M3 | M2 | 40 | 29.4 | 3.5 | M2 |
| 8 | 12.8 | 31 | 38 | 20 | 5 | 9 | 16 | 3.2 | M3 | M2.5 | 50 | 37.4 | 3.5 | M2 |
| 10 | 15.9 | 38 | 47 | 26 | 6 | 12 | 19 | 4.3 | M4 | M3 | 62 | 46.4 | 4.5 | M2.5 |

| Size | EE | L1 | L2 | L3 | L4 | L5 | L6 | L7 | L8 | L9 | T1 | T2 h12 | ≡C | Swivel angle tolerance |
|------|----|------|------|----|----|------|------|----|-----|----|-----|-----------|-----|---------------------------|
| 6 | M3 | 55.5 | 13 | 10 | 2 | 9.8 | 33.5 | 5 | 6 | 3 | 3.5 | 4 | 3 | 0/+5° |
| 8 | M3 | 64.5 | 16 | 13 | 2 | 11.3 | 37.5 | 6 | 6.5 | 3 | 4.5 | 4.3 | 3.5 | 0/+5° |
| 10 | M3 | 79 | 19.6 | 16 | 2 | 14.3 | 46 | 8 | 7.5 | 4 | - | 5 | 4.5 | 0/+5° |

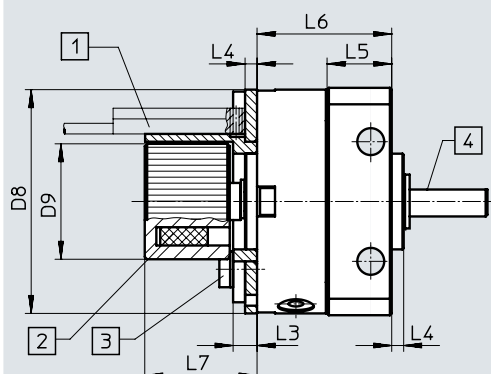
Data sheet DSM-6 ... 10

Dimensions

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DSM-... – With spigot shaft and position sensing

DSM-T... – With spigot shaft, tandem rotary vanes and position sensing



[1] Proximity switch not included in the scope of delivery. Observe fitting space for proximity switch and cable guide

[2] Position of the magnet

[3] Max. tightening torque for sensor bracket screws
→ table below

[4] The flat or the featherkey on the shaft indicates the position of the rotary vane

| Size | D8 ∅ | D9 ∅ | L3 | L4 | L5 | L6 | | L7 | Tightening torque [Nm] |
|------|---------|---------|----|----|------|---------|----------|------|---------------------------|
| | | | | | | DSM-... | DSM-T... | | |
| 6 | 29.4 | 17.3 | 4 | 2 | 9.8 | 21 | 33.5 | 19.5 | 0.19 |
| 8 | 37.4 | 19.3 | 4 | 2 | 11.3 | 23 | 37.5 | 19.5 | 0.32 |
| 10 | 46.4 | 22.3 | 4 | 2 | 14.3 | 28 | 45.6 | 19.5 | 0.44 |

Data sheet DSM-6 ... 10

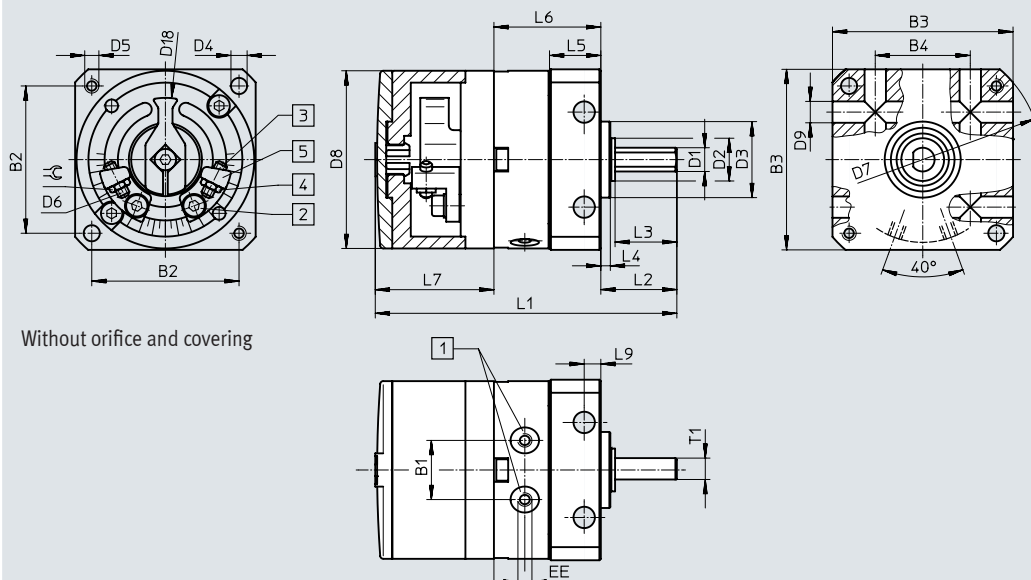
Dimensions

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DSM-... – With spigot shaft and adjustable swivel angle

DSM-T... – With spigot shaft, tandem rotary vanes and adjustable swivel angle

ohne Blende und Abdeckung



Without orifice and covering

Note

The swivel angle is infinitely adjustable over the entire swivel range. Size 6 mm can only be adjusted symmetrically around the centre position.

- [1] Compressed air supply ports
- [2] Locking screw for clamping the stop
- [3] End-position adjustment
- [4] Lock nut for end-position adjustment
- [5] Infinitely adjustable stops

| Size | B1 | B2 | B3 | B4 | D1 ∅ g7 | D2 ∅ | D3 ∅ f8 | D4 ∅ H12 | D5 | D6 | D7 ∅ H12 | D8 ∅ | D9 ∅ H12 | D18 ∅ | EE | L1 | |
|------|------|----|----|----|---------------|---------|---------------|----------------|----|------|----------------|---------|----------------|----------|----|---------|----------|
| | | | | | | | | | | | | | | | | DSM-... | DSM-T... |
| 6 | 10 | 25 | 30 | 17 | 4 | 8 | 14 | 3.2 | M3 | M2 | 40 | 29.4 | 3.5 | 22 | M3 | 52 | 64.5 |
| 8 | 12.8 | 31 | 38 | 20 | 5 | 9 | 16 | 3.2 | M3 | M2.5 | 50 | 37.4 | 3.5 | 26 | | 64 | 78.5 |
| 10 | 15.9 | 38 | 47 | 26 | 6 | 12 | 19 | 4.3 | M4 | M3 | 62 | 46.4 | 4.5 | 35.8 | | 76 | 93.6 |

| Size | L2 | L3 | L4 | L5 | L6 | | L7 | L8 | L9 | T1 | ≈G | Max. swivel angle | Precision adjustment per side |
|------|------|----|----|------|---------|----------|------|-----|----|-----|-----|-------------------|-------------------------------|
| | | | | | DSM-... | DSM-T... | | | | | | | |
| 6 | 13 | 10 | 2 | 9.8 | 21 | 33.5 | 17.8 | 6 | 3 | 3.5 | 4 | 180°+5° | +1°/-5° |
| 8 | 16 | 13 | 2 | 11.3 | 23 | 37.5 | 24.9 | 6.5 | 3 | 4.5 | 5 | 180°+5° | +1°/-5° |
| 10 | 19.6 | 16 | 2 | 14.3 | 28.4 | 46 | 28.2 | 7.5 | 4 | - | 5.5 | 200°+5° | +1°/-5° |

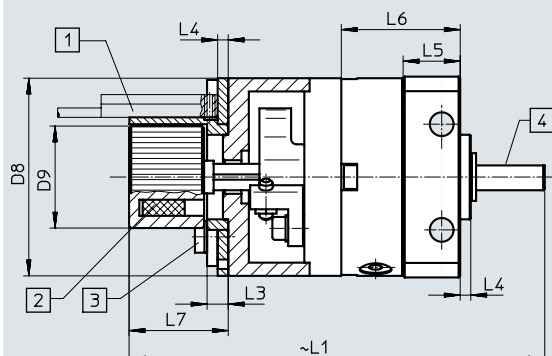
Data sheet DSM-6 ... 10

Dimensions

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DSM-... – With spigot shaft, adjustable swivel angle and position sensing

DSM-T... – With spigot shaft, tandem rotary vanes, adjustable swivel angle and position sensing



[1] Sensor not included in the scope of delivery. Observe fitting space for proximity switch and cable guide

[2] Position of the magnet

[3] Max. tightening torque for sensor bracket screw
→ table below

[4] The flat or the featherkey on the shaft indicates the position of the rotary vane

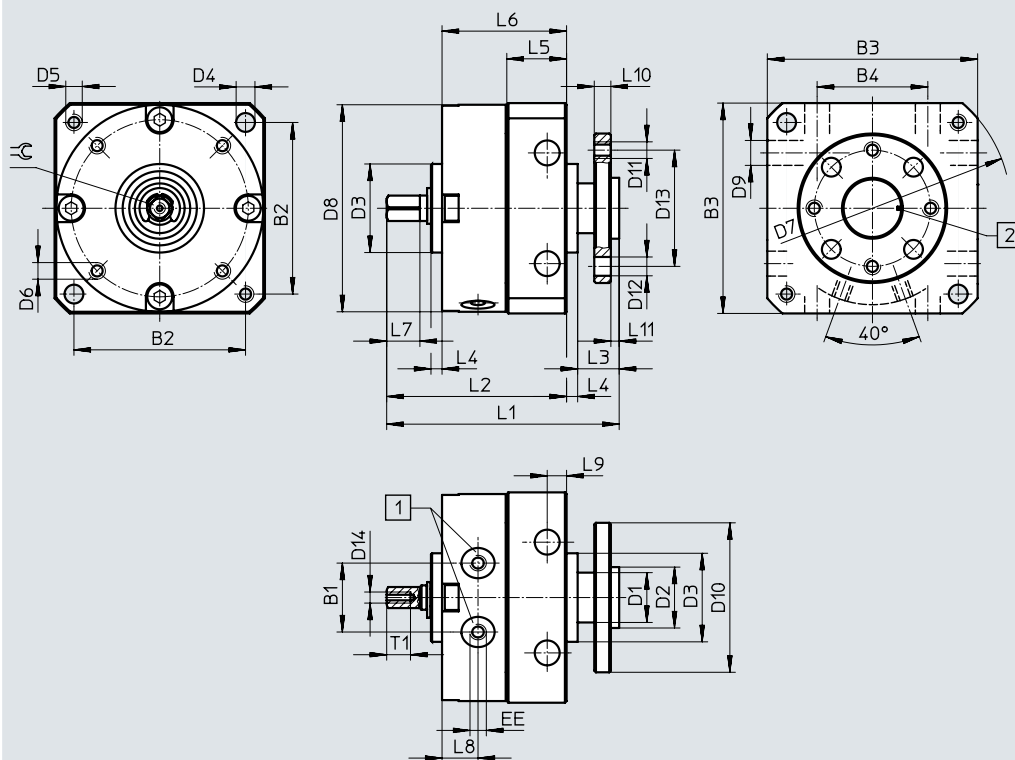
| Size | D8 ∅ | D9 | L1 | | L3 | L4 | L5 | L6 | | L7 | Tightening torque [Nm] |
|------|---------|------|---------|----------|----|----|------|---------|----------|------|---------------------------|
| | | | DSM-... | DSM-T... | | | | DSM-... | DSM-T... | | |
| 6 | 29.4 | 17.3 | 68.5 | 81 | 4 | 2 | 9.8 | 21 | 33.5 | 19.5 | 0.19 |
| 8 | 37.4 | 19.3 | 80 | 94.5 | 4 | 2 | 11.3 | 23 | 37.5 | 19.5 | 0.32 |
| 10 | 46.4 | 22.3 | 91.5 | 109.1 | 4 | 2 | 14.3 | 28.4 | 46 | 19.5 | 0.44 |

Data sheet DSM-6 ... 10

Dimensions

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DSM-... – With flange shaft



- [1] Compressed air supply ports
- [2] Mark indicating rotary vane position

| Size | B1 | B2 | B3 | B4 | D1 ∅ | D2 ∅ g7 | D3 ∅ f8 | D4 ∅ | D5 | D6 | D7 ∅ H12 | D8 ∅ | D9 ∅ H12 | D10 ∅ | D11 | D12 ∅ H13 | D13 ∅ |
|------|------|----|----|----|---------|---------------|---------------|---------|----|------|----------------|---------|----------------|----------|-----|-----------------|----------|
| 6 | 10 | 25 | 30 | 17 | 8 | 8 | 14 | 3.2 | M3 | M2 | 40 | 29.4 | 3.5 | 23 | M3 | 3.4 | 16 |
| 8 | 12.8 | 31 | 38 | 20 | 9 | 11 | 16 | 3.2 | M3 | M2.5 | 50 | 37.4 | 3.5 | 27 | M3 | 3.4 | 21 |
| 10 | 15.9 | 38 | 47 | 26 | 10 | 11 | 19 | 4.3 | M4 | M3 | 62 | 46.4 | 4.5 | 30 | M3 | 3.4 | 21 |

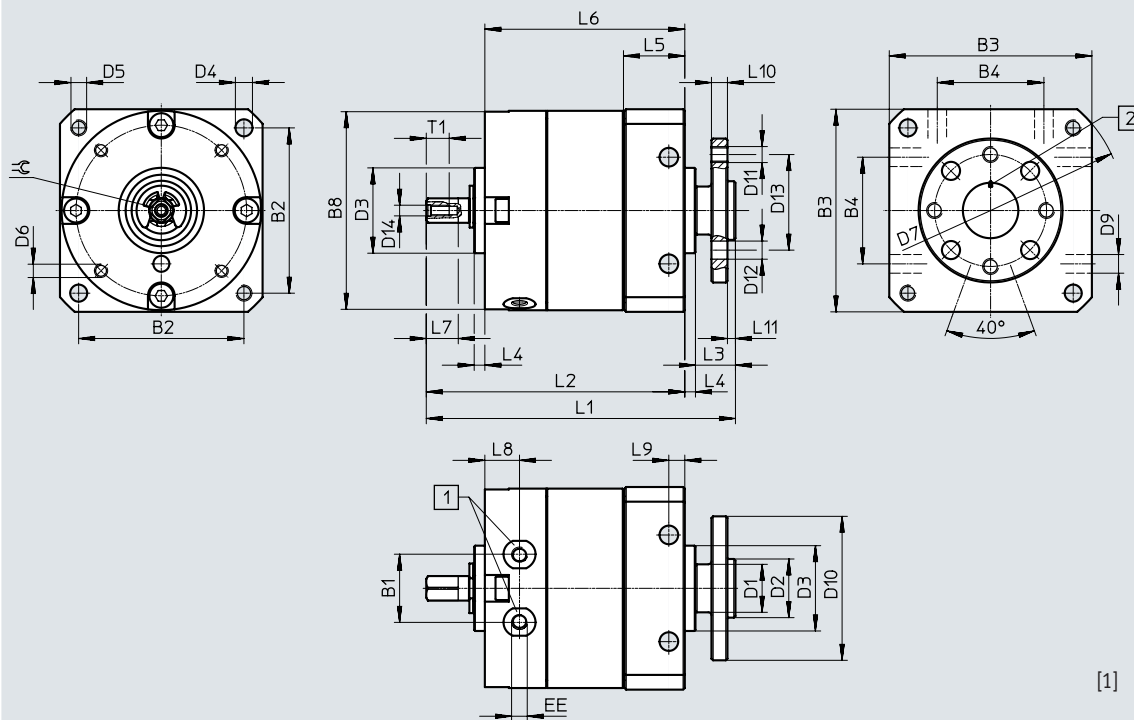
| Size | D14 | EE | L1 | L2 | L3 | L4 | L5 | L6 | L7 | L8 | L9 | L10 | L11 | T1 | ⊕ | Swivel angle tolerance |
|------|------|----|------|------|-----|----|------|------|----|-----|----|-----|-----|-----|-----|------------------------|
| 6 | M2 | M3 | 39.5 | 30 | 7.5 | 2 | 9.8 | 21 | 5 | 6 | 3 | 3 | 1.5 | 4 | 3 | 0/+5° |
| 8 | M2 | M3 | 43.5 | 34 | 7.5 | 2 | 11.3 | 23 | 6 | 6.5 | 3 | 3 | 1.5 | 4.3 | 3.5 | 0/+5° |
| 10 | M2.5 | M3 | 53 | 41.4 | 9.6 | 2 | 14.3 | 28.4 | 8 | 7.5 | 4 | 3 | 1.6 | 5 | 4.5 | 0/+5° |

Data sheet DSM-6 ... 10

Dimensions

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DSM-T... – With flange shaft and tandem rotary vanes



- [1] Compressed air supply ports
 [2] Mark indicating rotary vane position

| Size | B1 | B2 | B3 | B4 | D1 ∅ | D2 ∅ g7 | D3 ∅ f8 | D4 ∅ | D5 | D6 | D7 ∅ H12 | D8 ∅ | D9 ∅ H12 | D10 ∅ | D11 | D12 ∅ H13 | D13 ∅ |
|------|------|----|----|----|---------|---------------|---------------|---------|----|------|----------------|---------|----------------|----------|-----|-----------------|----------|
| 6 | 10 | 25 | 30 | 17 | 8 | 8 | 14 | 3.2 | M3 | M2 | 40 | 29.4 | 3.5 | 23 | M3 | 3.4 | 16 |
| 8 | 12.8 | 31 | 38 | 20 | 9 | 11 | 16 | 3.2 | M3 | M2.5 | 50 | 37.4 | 3.5 | 27 | M3 | 3.4 | 21 |
| 10 | 15.9 | 38 | 47 | 26 | 10 | 11 | 19 | 4.3 | M4 | M3 | 62 | 46.4 | 4.5 | 30 | M3 | 3.4 | 21 |

| Size | D14 | EE | L1 | L2 | L3 | L4 | L5 | L6 | L7 | L8 | L9 | L10 | L11 | T1 | ⊕ | Swivel angle tolerance |
|------|------|----|----|------|-----|----|------|------|----|-----|----|-----|-----|-----|-----|------------------------|
| 6 | M2 | M3 | 52 | 42.5 | 7.5 | 2 | 9.8 | 33.5 | 5 | 6 | 3 | 3 | 1.5 | 4 | 3 | 0/+5° |
| 8 | M2 | M3 | 58 | 48.5 | 7.5 | 2 | 11.3 | 37.5 | 6 | 6.5 | 3 | 3 | 1.5 | 4.3 | 3.5 | 0/+5° |
| 10 | M2.5 | M3 | 71 | 59.4 | 9.6 | 2 | 14.3 | 46 | 8 | 7.5 | 4 | 3 | 1.6 | 5 | 4.5 | 0/+5° |

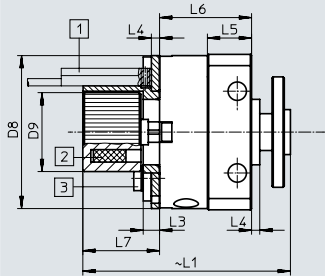
Data sheet DSM-6 ... 10

Dimensions

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DSM-... – With flange shaft and position sensing

DSM-T-... – With flange shaft, tandem rotary vanes and position sensing



[1] Proximity switch not included in the scope of delivery. Observe fitting space for proximity switch and cable guide

[2] Position of the magnet

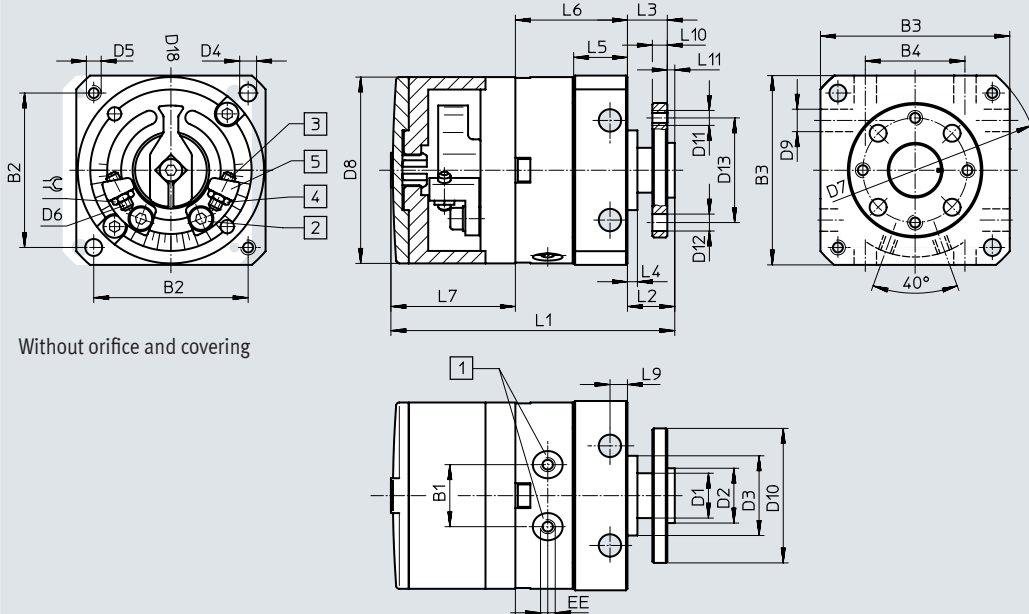
[3] Max. tightening torque for sensor bracket screw → table below

| Size | D8 ∅ | D9 ∅ | L1 | | L3 | L4 | L5 | L6 | | L7 | Tightening torque [Nm] |
|------|---------|---------|---------|-----------|----|----|------|---------|-----------|------|---------------------------|
| | | | DSM-... | DSM-T-... | | | | DSM-... | DSM-T-... | | |
| 6 | 29.4 | 17.3 | 50 | 62.5 | 4 | 2 | 9.8 | 21 | 33.5 | 19.5 | 0.19 |
| 8 | 37.4 | 19.3 | 52 | 66.5 | 4 | 2 | 11.3 | 23 | 37.5 | 19.5 | 0.32 |
| 10 | 46.4 | 22.3 | 59.5 | 77.1 | 4 | 2 | 14.3 | 28.4 | 46 | 19.5 | 0.44 |

DSM-... – With flange shaft and adjustable swivel angle

DSM-T-... – With flange shaft, tandem rotary vanes and adjustable swivel angle

ohne Blende und Abdeckung



Without orifice and covering

Note
The swivel angle is infinitely adjustable over the entire swivel range. Size 6 mm can only be adjusted symmetrically around the centre position.

- [1] Compressed air supply ports
- [2] Locking screw for clamping the stop
- [3] End-position adjustment
- [4] Lock nut for end-position adjustment
- [5] Infinitely adjustable stops

| Size | B1 | B2 | B3 | B4 | D1 ∅ | D2 ∅ g7 | D3 ∅ f8 | D4 ∅ H12 | D5 | D6 | D7 ∅ H12 | D8 ∅ | D9 ∅ H12 | D10 ∅ | D11 | D12 ∅ H13 | D13 ∅ | D18 ∅ | EE |
|------|------|----|----|----|---------|---------------|---------------|----------------|----|------|----------------|---------|----------------|----------|-----|-----------------|----------|----------|----|
| 6 | 10 | 25 | 30 | 17 | 8 | 8 | 14 | 3.2 | M3 | M2 | 40 | 29.4 | 3.5 | 23 | M3 | 3.4 | 16 | 22 | M3 |
| 8 | 12.8 | 31 | 38 | 20 | 9 | 11 | 16 | 3.2 | M3 | M2.5 | 50 | 37.4 | 3.5 | 27 | M3 | 3.4 | 21 | 26 | M3 |
| 10 | 15.9 | 38 | 47 | 26 | 10 | 11 | 19 | 4.3 | M4 | M3 | 62 | 46.4 | 4.5 | 30 | M3 | 3.4 | 21 | 35.8 | M3 |

| Size | L1 | | L2 | L3 | L4 | L5 | L6 | | L7 | L8 | L9 | L10 | L11 | ⊕ | Max. swivel angle | Precision adjustment per side |
|------|---------|-----------|------|----|----|------|---------|-----------|------|-----|----|-----|-----|-----|-------------------|-------------------------------|
| | DSM-... | DSM-T-... | | | | | DSM-... | DSM-T-... | | | | | | | | |
| 6 | 48 | 60.5 | 9.5 | 8 | 2 | 9.8 | 21 | 33.5 | 17.8 | 6 | 3 | 3 | 1.5 | 4 | 180° +5° | +1°/-5° |
| 8 | 58 | 72.5 | 9.5 | 8 | 2 | 11.3 | 23 | 37.5 | 24.9 | 6.5 | 3 | 3 | 1.5 | 5 | 180° +5° | +1°/-5° |
| 10 | 68 | 85.6 | 11.6 | 10 | 2 | 14.3 | 28.4 | 46 | 28.2 | 7.5 | 4 | 3 | 1.6 | 5.5 | 200° +5° | +1°/-5° |

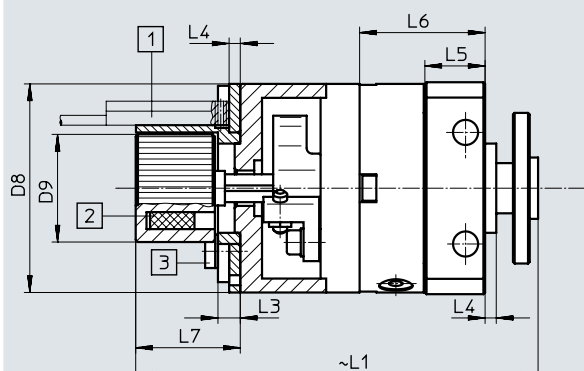
Data sheet DSM-6 ... 10

Dimensions

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DSM-... – With flange shaft, adjustable swivel angle and position sensing

DSM-T... – With flange shaft, tandem rotary vanes, adjustable swivel angle and position sensing



[1] Proximity switch not included in the scope of delivery. Observe fitting space for proximity switch and cable guide

[2] Position of the magnet

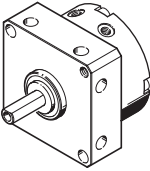
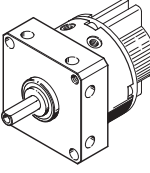
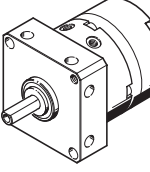
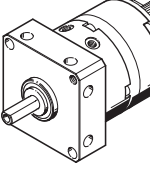
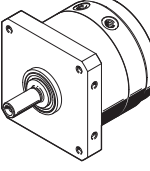
[3] Max. tightening torque for sensor bracket screws
→ table below

 **Note**

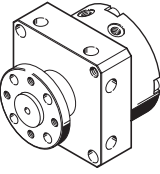
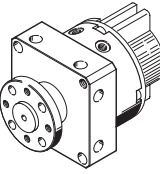
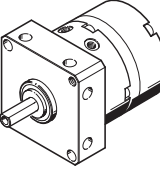
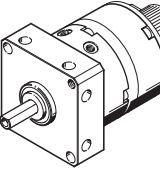
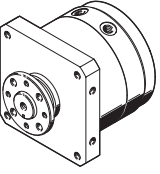
The swivel angle is infinitely adjustable over the entire swivel range. Size 6 mm can only be adjusted symmetrically around the centre position.

| Size | D8 ∅ | D9 ∅ | L1 | | L3 | L4 | L5 | L6 | | L7 | Tightening torque [Nm] |
|------|---------|---------|---------|----------|----|----|------|---------|----------|------|---------------------------|
| | | | DSM-... | DSM-T... | | | | DSM-... | DSM-T... | | |
| 6 | 29.4 | 17.3 | 65 | 77.5 | 4 | 2 | 9.8 | 21 | 33.5 | 19.5 | 0.19 |
| 8 | 37.4 | 19.3 | 73.5 | 88 | 4 | 2 | 11.3 | 23 | 37.5 | 19.5 | 0.32 |
| 10 | 46.4 | 22.3 | 83 | 100.6 | 4 | 2 | 14.3 | 28.4 | 46 | 19.5 | 0.44 |

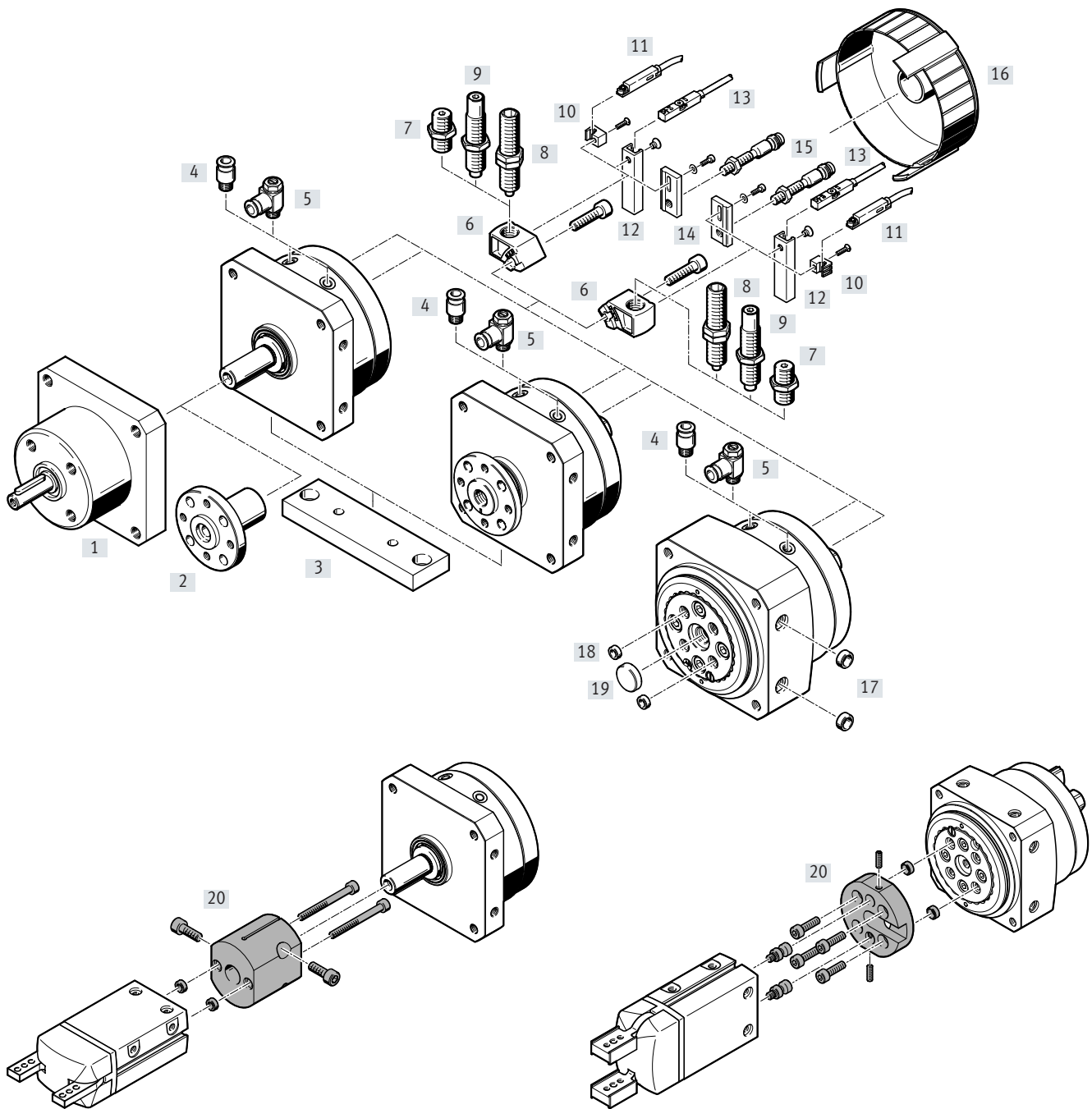
Data sheet DSM-6 ... 10

| Ordering data | Characteristics | Swivel angle | Size [mm] | Part no. | Type | | |
|--|---|--|--|----------|------------------|-------------------|------------------|
| Spigot shaft | | | | | | | |
|  | <ul style="list-style-type: none"> Elastic cushioning rings/plates at both ends | 90° | 6 | 173188 | DSM-6-90-P | | |
| | | | 8 | 173190 | DSM-8-90-P | | |
| | | | 10 | 173192 | DSM-10-90-P | | |
| | | 180° | | 6 | 173189 | DSM-6-180-P | |
| | | | | 8 | 173191 | DSM-8-180-P | |
| | | | | 10 | 173193 | DSM-10-180-P | |
| | | 240° | | 10 | 173194 | DSM-10-240-P | |
| | |  | <ul style="list-style-type: none"> Position sensing Elastic cushioning rings/plates at both ends | 90° | 6 | 173195 | DSM-6-90-P-A |
| | | | | | 8 | 173197 | DSM-8-90-P-A |
| 10 | 173199 | | | | DSM-10-90-P-A | | |
| 180° | | | | 6 | 173196 | DSM-6-180-P-A | |
| | | | | 8 | 173198 | DSM-8-180-P-A | |
| | | | | 10 | 173200 | DSM-10-180-P-A | |
| 240° | | | | 10 | 173201 | DSM-10-240-P-A | |
|  | <ul style="list-style-type: none"> Adjustable swivel angle Elastic cushioning rings/plates at both ends | | | 180° | 6 | 175827 | DSM-6-180-P-A-FF |
| | | | | | 8 | 175828 | DSM-8-180-P-A-FF |
| | | 200° | | 10 | 175829 | DSM-10-240-P-A-FF | |
|  | <ul style="list-style-type: none"> Position sensing Adjustable swivel angle Elastic cushioning rings/plates at both ends | 180° | 6 | 175830 | DSM-6-180-P-A-FF | | |
| | | | 8 | 175831 | DSM-8-180-P-A-FF | | |
| | | 200° | | 10 | 175832 | DSM-10-240-P-A-FF | |
| | | | | | | | |
|  | <ul style="list-style-type: none"> Tandem rotary vanes Elastic cushioning rings/plates at both ends | 90° | 6 | 1564894 | DSM-T-6-90-P | | |
| | | | 8 | 1563451 | DSM-T-8-90-P | | |
| | | | 10 | 1559484 | DSM-T-10-90-P | | |
| | | 180° | | 6 | 1565579 | DSM-T-6-180-P | |
| | | | | 8 | 1564407 | DSM-T-8-180-P | |
| | | | | 10 | 1561689 | DSM-T-10-180-P | |
| | | 240° | | 10 | 1562093 | DSM-T-10-240-P | |

Data sheet DSM-6 ... 10

| Ordering data | Characteristics | Swivel angle | Size [mm] | Part no. | Type | | |
|---|---|---|--|----------|---------------------|---------|----------------------|
| Flange shaft | | | | | | | |
|  | <ul style="list-style-type: none"> Elastic cushioning rings/plates at both ends | 90° | 6 | 185928 | DSM-6-90-P-FW | | |
| | | | 8 | 185934 | DSM-8-90-P-FW | | |
| | | | 10 | 185940 | DSM-10-90-P-FW | | |
| | | | | 180° | 6 | 185929 | DSM-6-180-P-FW |
| | | | | | 8 | 185935 | DSM-8-180-P-FW |
| | | | | | 10 | 185941 | DSM-10-180-P-FW |
| | | | | 240° | 10 | 185942 | DSM-10-240-P-FW |
| | |  | <ul style="list-style-type: none"> Position sensing Elastic cushioning rings/plates at both ends | 90° | 6 | 185930 | DSM-6-90-P-A-FW |
| | | | | | 8 | 185936 | DSM-8-90-P-A-FW |
| 10 | 185943 | | | | DSM-10-90-P-A-FW | | |
| | | | | 180° | 6 | 185931 | DSM-6-180-P-A-FW |
| | | | | | 8 | 185937 | DSM-8-180-P-A-FW |
| | | | | | 10 | 185944 | DSM-10-180-P-A-FW |
| | | | | 240° | 10 | 185945 | DSM-10-240-P-A-FW |
|  | <ul style="list-style-type: none"> Adjustable swivel angle Elastic cushioning rings/plates at both ends | | | 180° | 6 | 185932 | DSM-6-180-P-FF-FW |
| | | | | | 8 | 185938 | DSM-8-180-P-FF-FW |
| | | | | 200° | 10 | 185946 | DSM-10-240-P-FF-FW |
|  | <ul style="list-style-type: none"> Position sensing Adjustable swivel angle Elastic cushioning rings/plates at both ends | 180° | 6 | 185933 | DSM-6-180-P-A-FF-FW | | |
| | | | 8 | 185939 | DSM-8-180-P-A-FF-FW | | |
| | | | | 200° | 10 | 185947 | DSM-10-240-P-A-FF-FW |
|  | <ul style="list-style-type: none"> Tandem rotary vanes Elastic cushioning rings/plates at both ends | 90° | 6 | 1565425 | DSM-T-6-90-P-FW | | |
| | | | 8 | 1564334 | DSM-T-8-90-P-FW | | |
| | | | 10 | 1560818 | DSM-T-10-90-P-FW | | |
| | | | | 180° | 6 | 1565483 | DSM-T-6-180-P-FW |
| | | | | | 8 | 1564669 | DSM-T-8-180-P-FW |
| | | | | | 10 | 1561556 | DSM-T-10-180-P-FW |
| | | | | 240° | 10 | 1562318 | DSM-T-10-240-P-FW |

Peripherals overview DSM-12 ... 63



Peripherals overview DSM-12 ... 63

| Accessories | For size | Description | → Page/Internet |
|--|--------------------|--|-----------------|
| [1] Free wheel unit FLSM | 12 ... 40 | <ul style="list-style-type: none"> For indexed rotation in one direction Only in combination with semi-rotary drive DSM with spigot shaft | 50 |
| [2] Push-on flange FWSR | 12 ... 40 | For retrofitting on semi-rotary drive DSM with spigot shaft | 51 |
| [3] Mounting plate HSM | 12 ... 40 | For foot or flange mounting | 52 |
| [4] Push-in fitting QS | 12 ... 63 | For connecting compressed air tubing with standard O.D. | qs |
| [5] One-way flow control valve GRLA | 12 ... 63 | For speed regulation | 56 |
| [6] Cushioning mount DSM-B | 12 ... 63 | <ul style="list-style-type: none"> For mounting elastic cushioning components or shock absorbers Included in the scope of delivery for semi-rotary drive DSM-...-P/P1/CC | 53 |
| [7] Cushioning kit DSM-...-P | 12 ... 63 | <ul style="list-style-type: none"> Elastic cushioning components with fixed stop Included in the scope of delivery for semi-rotary drive DSM-...-P | 46 |
| [8] Shock absorber DYEF | 12 ... 63 | <ul style="list-style-type: none"> Adjustable, elastic cushioning components with fixed stop Included in the scope of delivery for semi-rotary drive DSM-...-P1 | 46 |
| [9] Shock absorber DYSC | 12 ... 63 | <ul style="list-style-type: none"> Self-adjusting shock absorbers with fixed stop Included in the scope of delivery for semi-rotary drive DSM-...-CC | 46 |
| [10] Sensor bracket SL-DSM-B | 12 ... 40 | For mounting the proximity switches SME/SMT-10 | 54 |
| [11] Proximity switches SME/SMT-10 | 12 ... 40 | For sensing the end positions | 54 |
| [12] Sensor bracket SL-DSM-63-B | 63 | For mounting the proximity switches SME/SMT-8 | 54 |
| [13] Proximity switches SME/SMT-8 | 63 | For sensing the end positions | 55 |
| [14] Sensor bracket SL-DSM-S | 12 ... 40 | For mounting the inductive proximity switches SIEN | 54 |
| [15] Proximity switch SIEN | 12 ... 40 | Inductive proximity switch for sensing the end positions | 56 |
| [16] Cover cap AKM | 12 ... 40 | <ul style="list-style-type: none"> Reduces the risk of injury in the swivel range of the stop lever Cannot be used in combination with inductive proximity switch SIEN | 52 |
| [17] Centring sleeve ZBH | 12 ... 63 | For centring the drive | 56 |
| [18] Centring sleeve ZBH | 12 ... 63 | For centring attachments on the rotating plate | 56 |
| [19] Centring sleeve/disc ZBH/SLZZ | 12, 16, 25, 40, 63 | For centring attachments in the middle of the rotating plate | 56 |
| [20] Adapter kit HAPG, DHAA | 12 ... 40 | For drive/gripper connections | grippers |

Type codes DSM-12 ... 63

| | | |
|------------|-------------------|--|
| 001 | Series | |
| DSM | Semi-rotary drive | |

| | | |
|------------|--------------------|--|
| 002 | Design type | |
| | Standard | |
| T | Tandem vane | |

| | | |
|------------|-------------|--|
| 003 | Size | |
| 12 | 12 | |
| 16 | 16 | |
| 25 | 25 | |
| 32 | 32 | |
| 40 | 40 | |
| 63 | 63 | |

| | | |
|------------|---------------------------------|--|
| 004 | Nominal swivel angle [°] | |
| 240 | 240 | |
| 246 | 246 | |
| 270 | 270 | |

| | | |
|------------|---|--|
| 005 | Cushioning | |
| | None | |
| P | Elastic cushioning rings/plates on both sides | |
| P1 | Elastic cushioning components, at both ends, adjustable | |
| CC | Shock absorber at both ends, self-adjusting | |

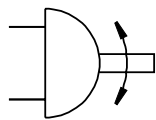
| | | |
|------------|------------------------------------|--|
| 006 | Shaft | |
| | Spigot shaft | |
| FW | Flanged shaft | |
| HD | Flange shaft for high load torques | |

| | | |
|------------|-------------------------|--|
| 007 | Position sensing | |
| A | For proximity sensor | |

| | | |
|------------|----------------|--|
| 008 | Variant | |
| B | B-series | |

Data sheet DSM-12 ... 63

Function



Size
12 ... 63



| General technical data | | | | | | | |
|-------------------------|--|-----------------------|----|------|-----|------|------|
| Size | 12 | 16 | 25 | 32 | 40 | 63 | |
| Pneumatic connection | M5 | | | G1/8 | | G1/4 | |
| Design | Rotary vane | | | | | | |
| Cushioning | | | | | | | |
| DSM-...-P | Elastic cushioning at both ends | | | | | | |
| DSM-...-P1 | Adjustable elastic cushioning at both ends | | | | | | |
| DSM-...-CC | Self-adjusting shock absorber at both ends | | | | | | |
| Type of mounting | Via female thread | | | | | | |
| Mounting position | Any | | | | | | |
| Swivel angle | | | | | | | |
| DSM-... | [°] | 270 | | | | | |
| DSM-...-P | [°] | 270/262 ¹⁾ | | 270 | | | |
| DSM-...-P1 | [°] | 246 | | | 240 | | |
| DSM-...-CC | [°] | 246 | | | 240 | | |
| Swivel angle adjustment | | | | | | | |
| DSM-...-P | [°] | -6 | | | | | |
| DSM-...-P1 | [°] | -6 | | | | | |
| DSM-...-CC | [°] | -3 | | | | | |
| Cushioning angle | | | | | | | |
| DSM-...-P1 | [°] | 10 | 9 | 7.5 | 6.5 | 6.5 | 6 |
| DSM-...-CC | [°] | 15 | 12 | 10 | 12 | 16 | 17.5 |
| Repetition accuracy | | | | | | | |
| DSM-...-P | [°] | 1 | | | | | |
| DSM-...-P1 | [°] | 0.1 | | | | | |
| DSM-...-CC | [°] | 0.1 | | | | | |

1) Restricted swivel angle in combination with sensor bracket SL-DSM-S-...

| Swivel frequency [Hz] | | | | | | | |
|----------------------------|-----|-----|-----|----|----|-----|-----|
| Size | 12 | 16 | 25 | 32 | 40 | 63 | |
| DSM-... / DSM-T-... | | | | | | | |
| With max. swivel angle | | | | | | | |
| DSM-...-P | 2 | | | | | | 1.6 |
| DSM-...-P1 | 2 | | | | | | 1.6 |
| DSM-...-CC | 1.5 | 1 | 0.7 | | | 0.6 | |
| With smaller swivel angle | | | | | | | |
| DSM-...-CC | 2 | 1.5 | | | | | |
| DSM-...-HD | | | | | | | |
| With max. swivel angle | | | | | | | |
| DSM-...-P1 | 1.5 | | | | | 1 | |
| DSM-...-CC | 1 | 0.5 | | | | | |

Data sheet DSM-12 ... 63

| Operating and environmental conditions | | | | | | | |
|---|-------|---|------------|------------|----|----|----|
| Size | | 12 | 16 | 25 | 32 | 40 | 63 |
| Operating medium | | Compressed air to ISO 8573-1:2010 [7:-:-] | | | | | |
| Operating pressure | | | | | | | |
| DSM-... | [bar] | 2 ... 10 | 1.8 ... 10 | 1.5 ... 10 | | | |
| DSM-T... | [bar] | 2.5 ... 10 | | 2 ... 10 | | | |
| DSM-...-HD | [bar] | 3 ... 10 | | 2 ... 10 | | | |
| Ambient temperature ¹⁾ | [°C] | -10 ... +60 | | | | | |
| Storage temperature | [°C] | 20 | | | | | |
| ATEX | | Selected types → www.festo.com | | | | | |
| CE marking (see declaration of conformity) | | To EU Explosion Protection Directive (ATEX) | | | | | |
| UKCA marking (see declaration of conformity) | | To UK EX instructions | | | | | |
| Explosion protection certification outside the EU | | EPL Gb (GB) | | | | | |
| | | EPL Db (GB) | | | | | |

1) Note operating range of proximity switches

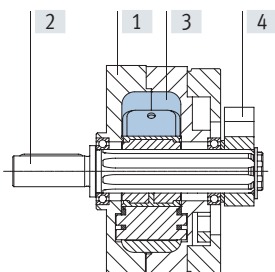
| Weight [g] | | | | | | | |
|---|--|-----|-----|------|------|------|------|
| Size | | 12 | 16 | 25 | 32 | 40 | 63 |
| Spigot shaft | | | | | | | |
| DSM-... | | 240 | 410 | 620 | 1250 | 2400 | 4220 |
| DSM-...-P | | 275 | 470 | 700 | 1425 | 2700 | 4900 |
| DSM-...-P1 | | 285 | 475 | 715 | 1475 | 2870 | 5090 |
| DSM-...-CC | | 285 | 480 | 710 | 1460 | 2800 | 5150 |
| Flange shaft | | | | | | | |
| DSM-...-FW | | 260 | 450 | 645 | 1325 | 2535 | 4475 |
| DSM-...-P-FW | | 293 | 510 | 725 | 1500 | 2835 | 5150 |
| DSM-...-P1-FW | | 303 | 515 | 740 | 1550 | 3005 | 5340 |
| DSM-...-CC-FW | | 300 | 520 | 735 | 1550 | 2935 | 5400 |
| Tandem rotary vanes and spigot shaft | | | | | | | |
| DSM-T... | | 330 | 590 | 890 | 1865 | 3570 | 6050 |
| DSM-T...-P | | 365 | 650 | 970 | 2040 | 3870 | 6730 |
| DSM-T...-CC | | 375 | 660 | 980 | 2075 | 3970 | 6980 |
| Tandem rotary vanes and flange shaft | | | | | | | |
| DSM-T...-FW | | 350 | 630 | 915 | 1940 | 3705 | 6305 |
| DSM-T...-P-FW | | 383 | 690 | 995 | 2115 | 4005 | 6980 |
| DSM-T...-CC-FW | | 390 | 700 | 1005 | 2165 | 4105 | 7230 |
| Heavy-duty bearing | | | | | | | |
| DSM-...-HD | | 375 | 625 | 950 | 1810 | 3712 | 5730 |
| DSM-...-P1-HD | | 420 | 700 | 1015 | 2035 | 4100 | 6600 |
| DSM-...-CC-HD | | 420 | 705 | 1010 | 2020 | 4030 | 6660 |

Data sheet DSM-12 ... 63

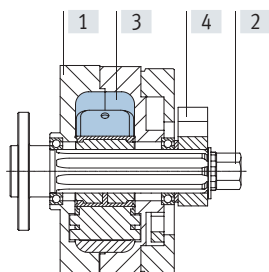
Materials

Sectional view

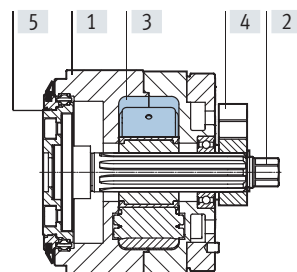
DSM-... / DSM-T-...



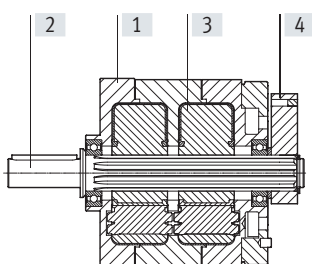
DSM-... FW



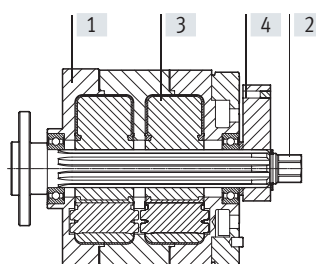
DSM-...-HD



DSM-T-...



DSM-T-...-FW



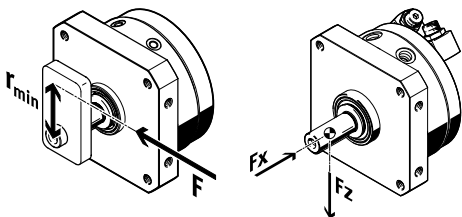
Semi-rotary drive


| | |
|------------------------|--------------------------------|
| [1] Housing, flange | Anodised aluminium |
| [2] Shaft | Nickel-plated steel |
| [3] Rotary vane | Glass fibre-reinforced plastic |
| [4] Stop lever | Anodised aluminium |
| [5] Rotating plate | Anodised aluminium |
| - Fixed stops | Stainless steel |
| Screws | Galvanised steel |
| Cover cap | Glass fibre-reinforced plastic |
| Seals | Polyurethane |
| Note on materials | RoHS-compliant |
| LABS (PWIS) conformity | VDMA24364-B1/B2-L |

Data sheet DSM-12 ... 63

| Forces and torques | | | | | | | |
|---|---------------------|-----------|------|------|------|------|-------|
| Size | | 12 | 16 | 25 | 32 | 40 | 63 |
| Torque at 6 bar | | | | | | | |
| DSM-... | [Nm] | 1.25 | 2.5 | 5 | 10 | 20 | 40 |
| DSM-T... | [Nm] | 2.5 | 5 | 10 | 20 | 40 | 80 |
| DSM-...-HD | [Nm] | 1.25 | 2.5 | 5 | 10 | 20 | 40 |
| Torque per bar | | | | | | | |
| DSM-... | [Nm] | 0.2 | 0.41 | 0.83 | 1.66 | 3.33 | 6.66 |
| DSM-T... | [Nm] | 0.4 | 0.82 | 1.66 | 3.33 | 6.66 | 13.33 |
| Min. perm. stop radius r | [mm] | 15 | 17 | 21 | 28 | 40 | 50 |
| Max. perm. stop force F | [N] | 90 | 160 | 320 | 480 | 650 | 1050 |
| Max. perm. dyn. axial force F_x on drive shaft ¹⁾ | | | | | | | |
| DSM-... / DSM-T... | [N] | 18 | 30 | 50 | 75 | 120 | 500 |
| DSM-...-HD | [N] | 180 | 290 | 350 | 450 | 950 | 1300 |
| Max. perm. dyn. radial force F_z on drive shaft ¹⁾ | | | | | | | |
| DSM-... / DSM-T... | [N] | 45 | 75 | 120 | 200 | 350 | 500 |
| DSM-...-HD | [N] | 200 | 300 | 450 | 550 | 1200 | 1600 |
| Max. permissible mass moment of inertia | | | | | | | |
| DSM-...-P | [kgm ²] | → Page 33 | | | | | |
| DSM-...-P1 | [kgm ²] | → Page 34 | | | | | |
| DSM-...-CC | [kgm ²] | → Page 35 | | | | | |

1) The axis of rotation and the centre of the drive shaft are the point of reference for the forces



-  - **Note**

If the semi-rotary drives DSM-...-A-B are used without a stop system or the mass moments of inertia are exceeded, external stops must be used. A minimum radius relative to the drive shaft (r_{min}) must be observed. The stop force must not exceed the maximum force.

Data sheet DSM-12 ... 63

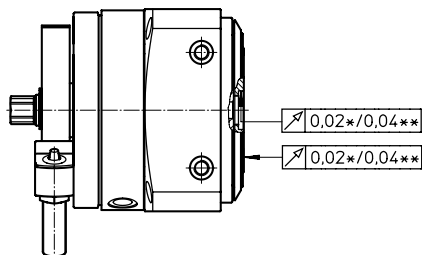
Axial eccentricity and concentricity of DSM-...-HD

Axial eccentricity:

Measured on the surface of the rotating plate at the plate edge, when new.

Concentricity:

Measured at the centre of the rotating plate, when new.

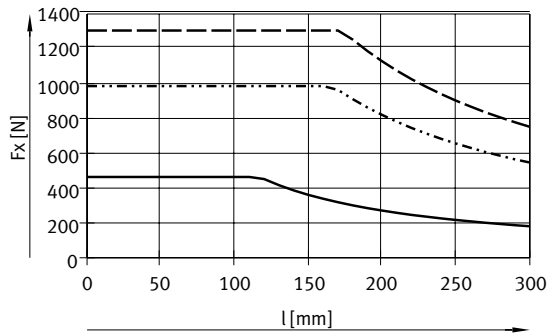
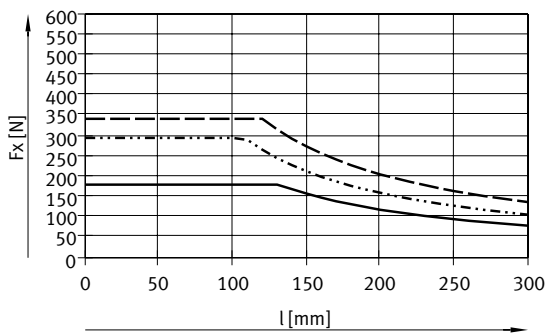
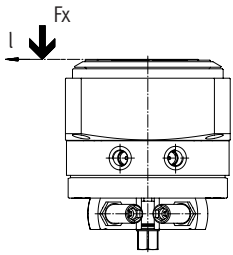


| Size | | 12 | 16 | 25 | 32 | 40 | 63 |
|----------------------|------|--------|--------|--------|--------|--------|--------|
| Axial eccentricity Y | [mm] | ≤ 0.02 | ≤ 0.02 | ≤ 0.02 | ≤ 0.04 | ≤ 0.04 | ≤ 0.04 |
| Concentricity Z | [mm] | ≤ 0.02 | ≤ 0.02 | ≤ 0.02 | ≤ 0.04 | ≤ 0.04 | ≤ 0.04 |

Data sheet DSM-12 ... 63

Permissible dynamic load for DSM-...-HD

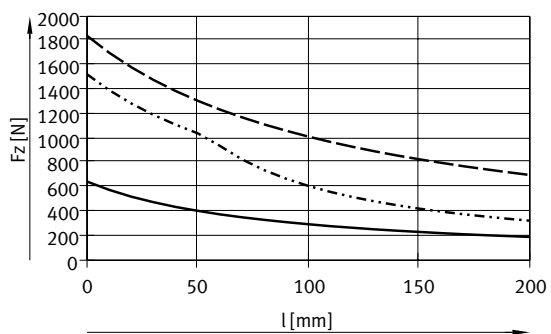
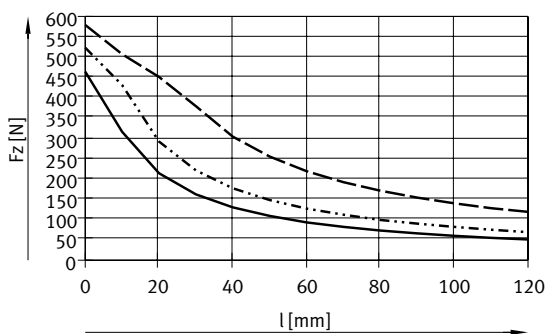
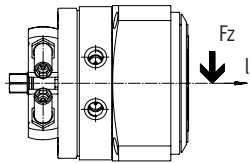
Permissible axial force F_x as a function of distance l



— DSM-12-...-HD
 DSM-16-...-HD
 - - - DSM-25-...-HD

— DSM-32-...-HD
 DSM-40-...-HD
 - - - DSM-63-...-HD

Permissible radial force F_z as a function of distance l



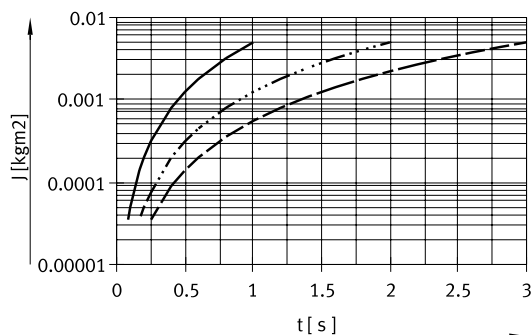
— DSM-12-...-HD
 DSM-16-...-HD
 - - - DSM-25-...-HD

— DSM-32-...-HD
 DSM-40-...-HD
 - - - DSM-63-...-HD

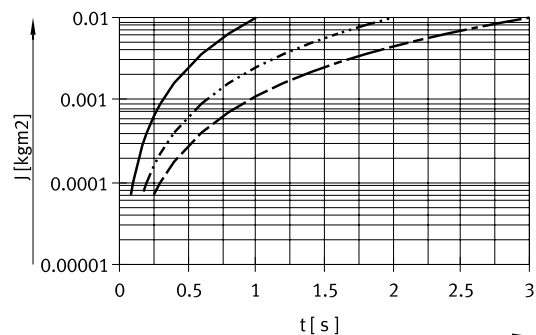
Data sheet DSM-12 ... 63

Mass moment of inertia J as a function of swivel time t
With elastic cushioning components (P)

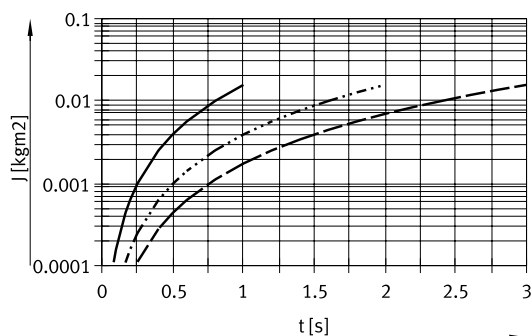
DSM-12-270-P



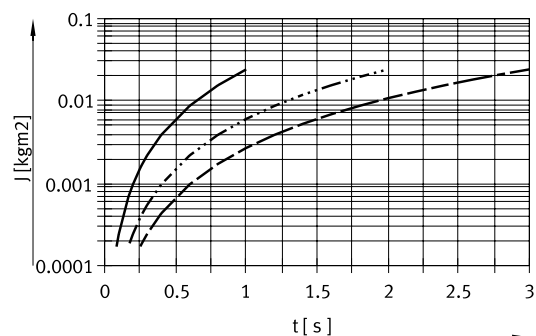
DSM-16-270-P



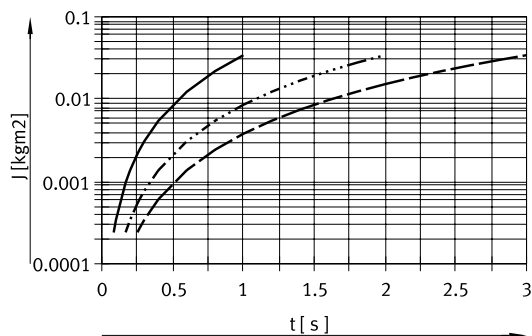
DSM-25-270-P



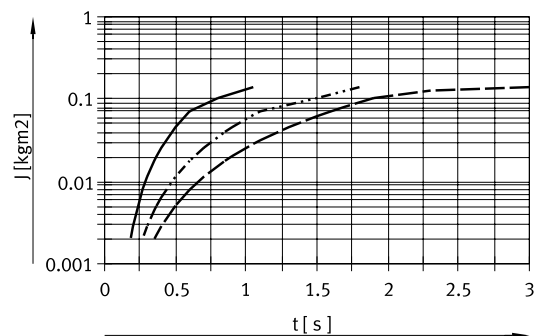
DSM-32-270-P




DSM-40-270-P



DSM-63-270-P



— 90°
- · - · - 180°
- - - 270°

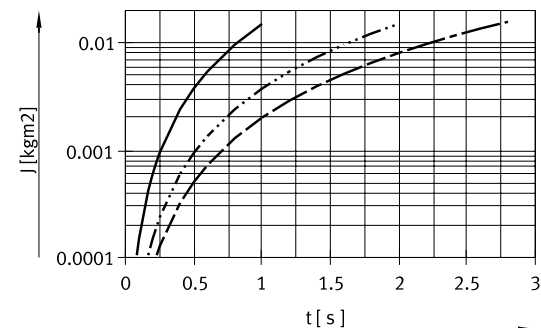
-  - **Note**

Engineering software
for calculating inertia
→ www.festo.com

Data sheet DSM-12 ... 63

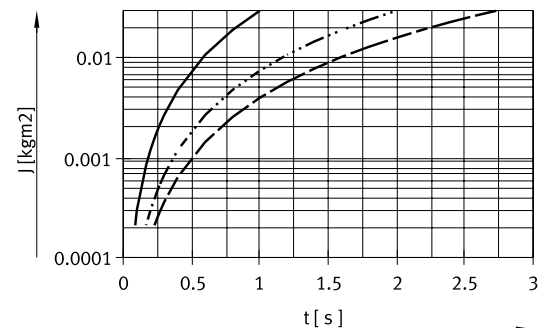
Mass moment of inertia J as a function of swivel time t
 With adjustable, elastic cushioning components (P1)

DSM-12-270-P1

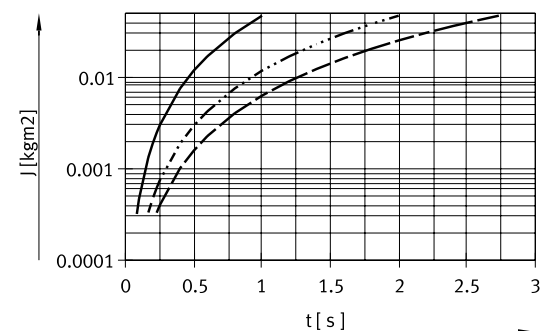


— 90°
 180°
 - - - 246°

DSM-16-270-P1

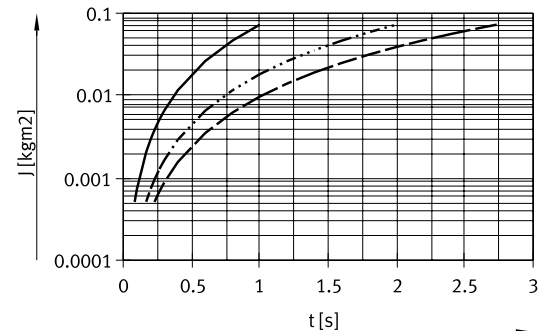


DSM-25-270-P1

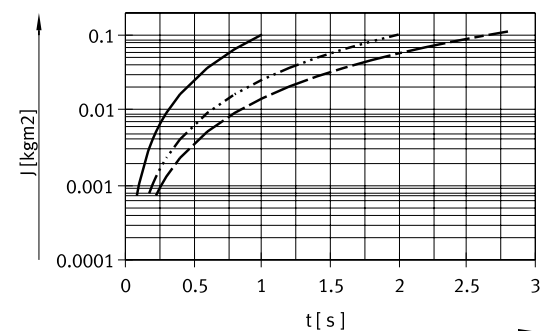


— 90°
 180°
 - - - 246°

DSM-32-270-P1

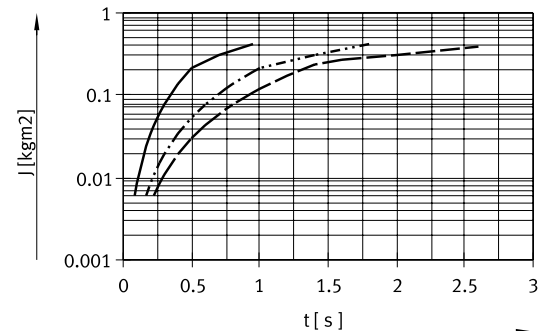


DSM-40-270-P1



— 90°
 180°
 - - - 240°

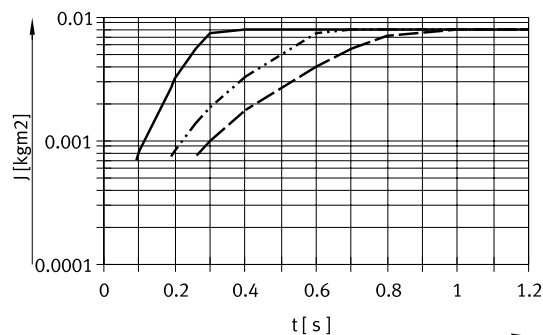
DSM-63-270-P1



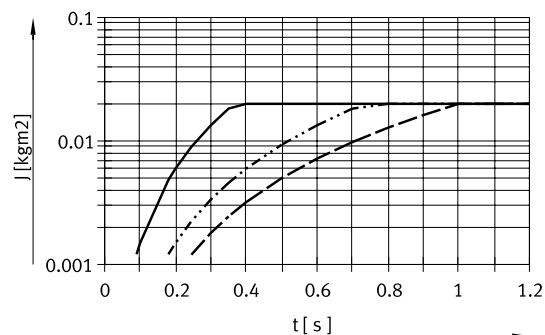
Data sheet DSM-12 ... 63

Mass moment of inertia J as a function of swivel time t
With hydraulic shock absorbers (CC)

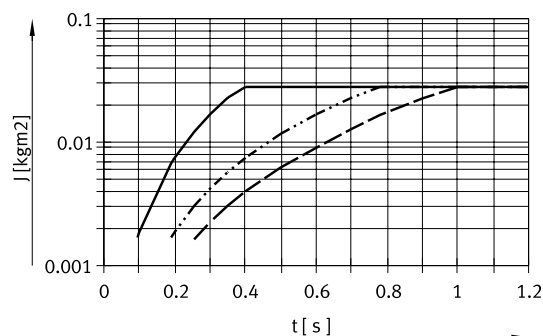
DSM-12-270-CC



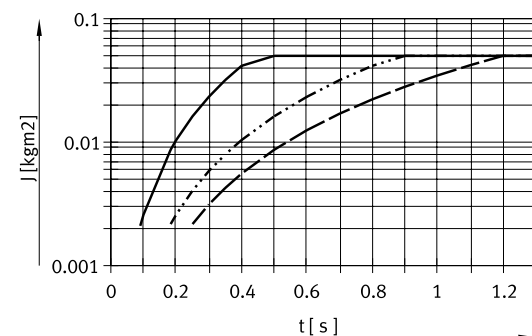
DSM-16-270-CC



DSM-25-270-CC

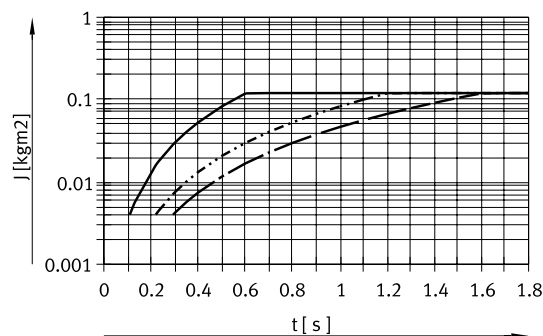


DSM-32-270-CC

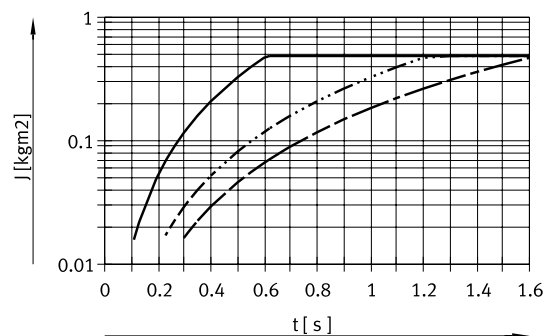


— 90°
 180°
 - - - 246°

DSM-40-270-CC



DSM-63-270-CC



— 90°
 180°
 - - - 240°

Cushioning time of the shock absorber

| Size | 12/16/25 | 32 | 40 | 63 |
|-----------------|----------|------|-----|-----|
| Cushioning time | [s] 0.1 | 0.25 | 0.3 | 0.4 |

The graphs for the DSM-...-CC show the swivel time up to the point where the stop lever meets the shock absorber. The cushioning time of the shock absorber must be added in order to obtain the total swivel time.

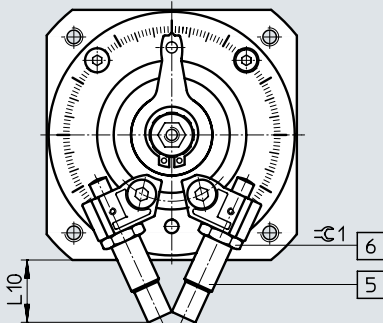
Data sheet DSM-12 ... 63

Dimensions

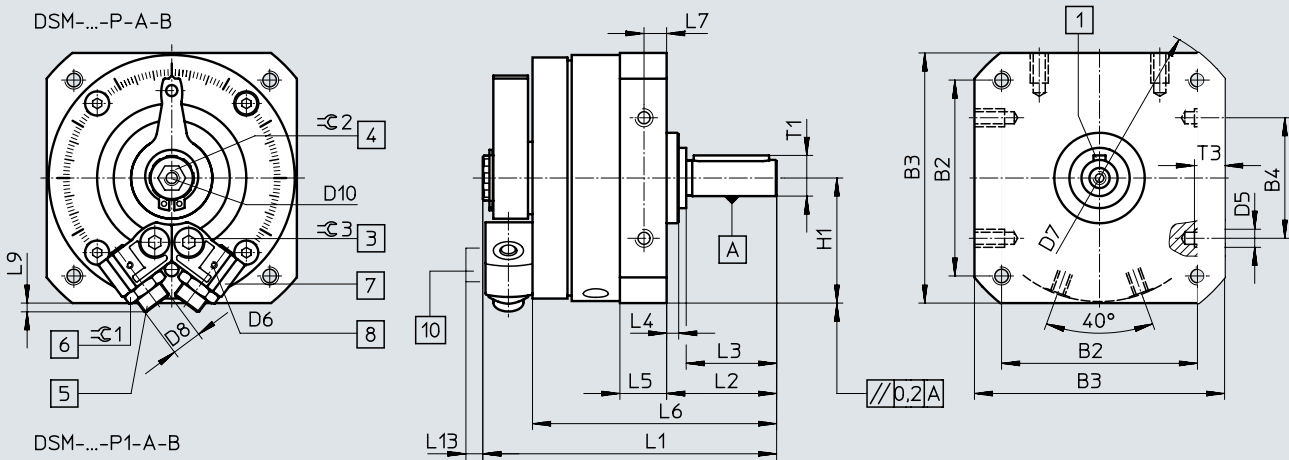
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DSM-... – With spigot shaft

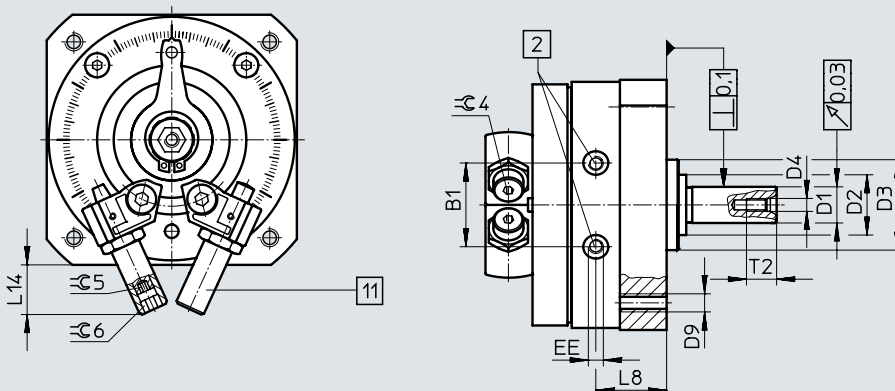
DSM-...-CC-A-B



DSM-...-P-A-B



DSM-...-P1-A-B



- [1] Featherkey position at 0°
- [2] Compressed air supply ports
- [3] Locking screw for clamping the stop
- [4] Manual override (internal hexagon). The position of the internal hexagon is not defined.
- [5] End-position adjustment
- [6] Lock nut for end-position adjustment
- [7] Infinitely adjustable stops
- [8] Mounting thread for sensor bracket
- [10] Sensor bracket
- [11] End-position adjustment

Data sheet DSM-12 ... 63

| Size | B1 ±0.5 | B2 | B3 | B4 | D1 ∅ g7 | D2 ∅ | D3 ∅ f8 | D4 |
|------|------------|---------|---------------------|--------|---------------|-------------------|---------------|-----|
| 12 | 19.8 | 48±0.3 | 59±0.3 | 30±0.2 | 8 | 15±0.2 | 24 | M3 |
| 16 | 23.5 | 57±0.3 | 70±0.3 | 40±0.2 | 10 | 18 _{0.3} | 28 | M3 |
| 25 | 28 | 65±0.3 | 83±0.3 | 40±0.2 | 12 | 20 _{0.3} | 30 | M4 |
| 32 | 35.5 | 85±0.3 | 105±0.3 | 60±0.3 | 16 | 27 _{0.4} | 42 | M5 |
| 40 | 43.8 | 105±0.3 | 130±0.5 | 80±0.3 | 20 | 36 _{0.4} | 52 | M6 |
| 63 | 50.3 | 125±0.5 | 152 ^{+0.2} | 80±0.3 | 25 | 40±0.3 | 70 | M10 |

| Size | D5 | D6 | D7 ∅ | D8 | D9 | D10 | EE |
|------|-----|----|---------|---------|-----|-----|------|
| 12 | M4 | M2 | 78±0.3 | M8x1 | M4 | M4 | M5 |
| 16 | M5 | M2 | 91±0.3 | M10x1 | M5 | M5 | M5 |
| 25 | M6 | M2 | 106±0.3 | M10x1 | M6 | M5 | M5 |
| 32 | M8 | M2 | 135±0.3 | M12x1 | M8 | M5 | G1/8 |
| 40 | M10 | M2 | 168±0.5 | M16x1 | M10 | M6 | G1/8 |
| 63 | M10 | M3 | 200±0.5 | M22x1.5 | M12 | M6 | G1/4 |

| Size | H1 ±0.2 | L1 | L2 +0.6 -0.7 | L3 | L4 ±0.4 | L5 | L6 | L7 |
|------|------------|---------------|--------------------|--------|------------|---------------|-----------|---------|
| 12 | 29.5 | 68.3±0.3 | 24.5 | 20±0.2 | 3 | 10.3±0.2/-0.3 | 55.5±0.8 | 5±0.1 |
| 16 | 35 | 82.7±1 | 28 | 23±0.2 | 2.6 | 13±0.2/-0.4 | 67.1±0.9 | 6.5±0.2 |
| 25 | 41.5 | 97.5±0.5 | 36.5 | 30±0.2 | 4 | 15.2±0.2/-0.4 | 81±1 | 7.5±0.2 |
| 32 | 52.5 | 127.1±0.5 | 51 | 40±0.2 | 8 | 19.2±0.2/-0.4 | 107±1.1 | 9.5±0.2 |
| 40 | 65 | 155.5±0.6 | 62 | 50±0.3 | 8 | 23.7±0.2/-0.4 | 131±1.2 | 12±0.2 |
| 63 | 76 | 197±0.4/-0.55 | 75.5 | 60±0.3 | 10.5 | 28.5±0.3/-0.5 | 159.5±1.2 | 14±0.2 |

| Size | L8 | L9 | L10 | L13 | L14 max. | T1 max. | T2 +2 | T3 +0.2 |
|------|------|-----|------|-----|-------------|------------|----------|------------|
| 12 | 16.5 | 3 | 22.7 | 6.5 | 21.2 | 8.8 | 9 | 8 |
| 16 | 20.2 | 7.2 | 26.1 | 6.5 | 22 | 11.2 | 9 | 8 |
| 25 | 23.5 | 2.9 | 20.7 | 6.5 | 17 | 13.5 | 10 | 10 |
| 32 | 30.5 | 3.8 | 29.1 | 6.5 | 23 | 18 | 12.5 | 12 |
| 40 | 36 | 3.4 | 43.5 | 6.5 | 36.5 | 22.5 | 16 | 15 |
| 63 | 45 | 10 | 72.5 | 4.5 | - | 28 | 22 | 16 |

| Size | ⊕ 1 | ⊕ 2 | ⊕ 3 | ⊕ 4 | ⊕ 5 | ⊕ 6 | Featherkey to DIN 6885 ¹⁾ |
|------|-----|-----|-----|-----|-----|-----|--------------------------------------|
| 12 | 10 | 6 | 2.5 | 2.5 | 2.5 | 2.5 | A2x2x16 |
| 16 | 13 | 8 | 3 | 3 | 3 | 5 | A3x3x18 |
| 25 | 13 | 8 | 4 | 3 | 3 | 6 | A4x4x25 |
| 32 | 15 | 10 | 5 | 4 | 4 | 8 | A5x5x36 |
| 40 | 19 | 10 | 6 | 5 | 5 | 10 | A6x6x45 |
| 63 | 27 | 10 | 8 | 5 | - | - | A8x7x50 |

1) Included in the scope of delivery.

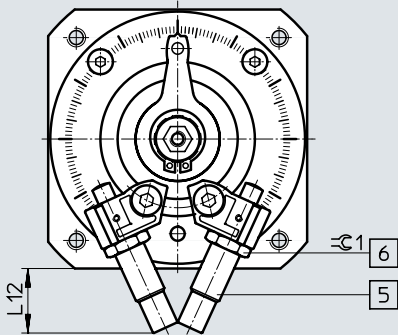
Data sheet DSM-12 ... 63

Dimensions

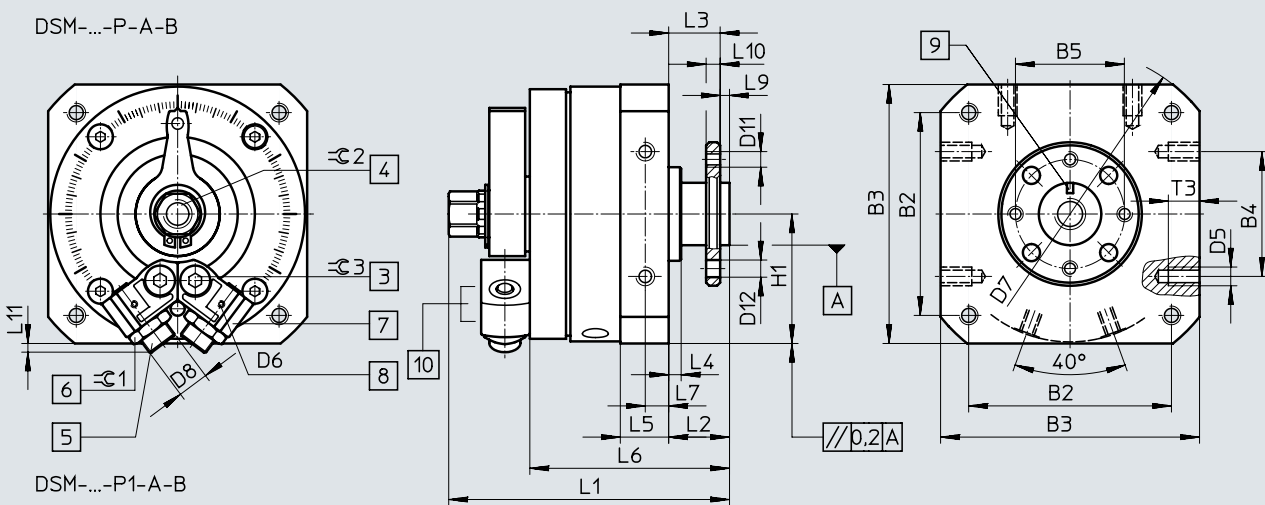
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DSM...-FW – With flange shaft

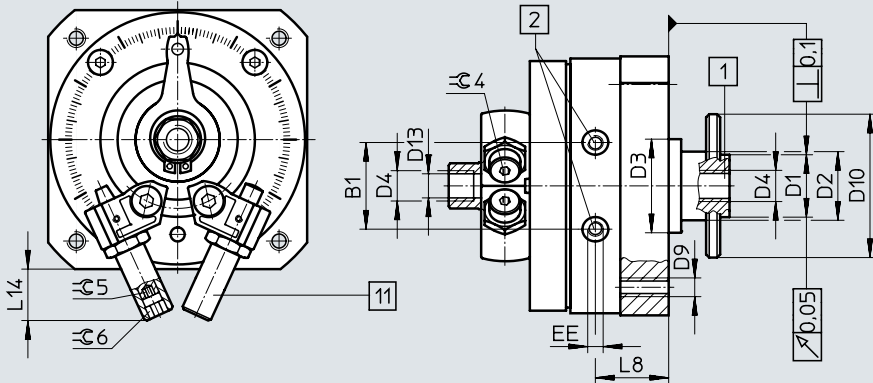
DSM...-CC-A-B



DSM...-P-A-B



DSM...-P1-A-B



- | | |
|--|---|
| [1] Flange shaft with through-hole | [6] Lock nut for end-position adjustment |
| [2] Compressed air supply ports | [7] Infinitely adjustable stops |
| [3] Locking screw for clamping the stop | [8] Mounting thread for sensor bracket |
| [4] Manual override (external hexagon). The position of the external hexagon is not defined. | [9] Position of marking corresponds to position of stop |
| [5] End-position adjustment | [10] Sensor bracket |
| | [11] End-position adjustment |

Data sheet DSM-12 ... 63

| Size | B1 ±0.5 | B2 | B3 | B4 | B5 | D1 ∅ f8 | D2 ∅ | D3 ∅ f8 | D4 | D5 |
|------|------------|---------|---------|--------|----|---------------|--------------------|---------------|------|-----|
| 12 | 19.8 | 48±0.3 | 59±0.3 | 30±0.2 | 25 | 14 | 15±0.2 | 24 | M5 | M4 |
| 16 | 23.5 | 57±0.3 | 70±0.3 | 40±0.2 | 28 | 16 | 18 _{-0.3} | 28 | M5 | M5 |
| 25 | 28 | 65±0.3 | 83±0.3 | 40±0.2 | 35 | 20 | 20 _{-0.3} | 30 | G1/8 | M6 |
| 32 | 35.5 | 85±0.3 | 105±0.3 | 60±0.3 | 45 | 28 | 27 _{-0.4} | 42 | G1/8 | M8 |
| 40 | 43.8 | 105±0.3 | 130±0.5 | 80±0.3 | 54 | 36 | 36 _{-0.4} | 52 | G1/4 | M10 |
| 63 | 50.3 | 125±0.5 | 152±0.2 | 80±0.3 | 64 | 38 | 40±0.3 | 70 | G1/4 | M10 |

| Size | D6 | D7 ∅ | D8 | D9 | D10 ∅ | D11 | D12 H13 | D13 | EE | H1 ±0.2 |
|------|----|---------|---------|-----|----------|-----|------------|------|------|------------|
| 12 | M2 | 78±0.3 | M8x1 | M4 | 33 | M3 | 3.4 | 4.2 | M5 | 29.5 |
| 16 | M2 | 91±0.3 | M10x1 | M5 | 38 | M4 | 4.5 | 4.2 | M5 | 35 |
| 25 | M2 | 106±0.3 | M10x1 | M6 | 46 | M5 | 5.5 | 8.6 | M5 | 41.5 |
| 32 | M2 | 135±0.3 | M12x1 | M8 | 60 | M6 | 6.5 | 8.6 | G1/8 | 52.5 |
| 40 | M2 | 168±0.5 | M16x1 | M10 | 70 | M8 | 9 | 11.5 | G1/8 | 65 |
| 63 | M3 | 200±0.5 | M22x1.5 | M12 | 88 | M8 | 12 | 11.5 | G1/4 | 76 |

| Size | L1 | L2 +0.5 -0.85 | L3 +0.5 -0.62 | L4 ±0.4 | L5 | L6 ±1 | L7 | L8 | L9 -0.2 | L10 |
|------|-----------------|---------------------|---------------------|------------|---------------|----------|---------|------|------------|---------|
| 12 | 67.3+0.4/-0.65 | 13 | 11 | 3 | 10.3+0.2/-0.3 | 44 | 5±0.1 | 16.5 | 2 | 3±0.1 |
| 16 | 79+0.4/-0.65 | 15 | 13 | 2.6 | 13+0.2/-0.4 | 54.1 | 6.5±0.2 | 20.2 | 2 | 4±0.1 |
| 25 | 90+0.4/-0.65 | 19.5 | 16.5 | 4 | 15.2+0.2/-0.4 | 64 | 7.5±0.2 | 23.5 | 3 | 4.5±0.1 |
| 32 | 115.8+0.4/-0.65 | 27 | 23 | 8 | 19.2+0.2/-0.4 | 83 | 9.5±0.2 | 30.5 | 4 | 6±0.1 |
| 40 | 143.8+0.4/-0.7 | 33 | 28 | 8 | 23.7+0.2/-0.4 | 102 | 12±0.2 | 36 | 5 | 7.5±0.1 |
| 63 | 177.4+0.2/-0.55 | 37.5 | 31.5 | 10.5 | 28.5+0.3/-0.5 | 121.5 | 14±0.2 | 45 | 6 | 9±0.2 |

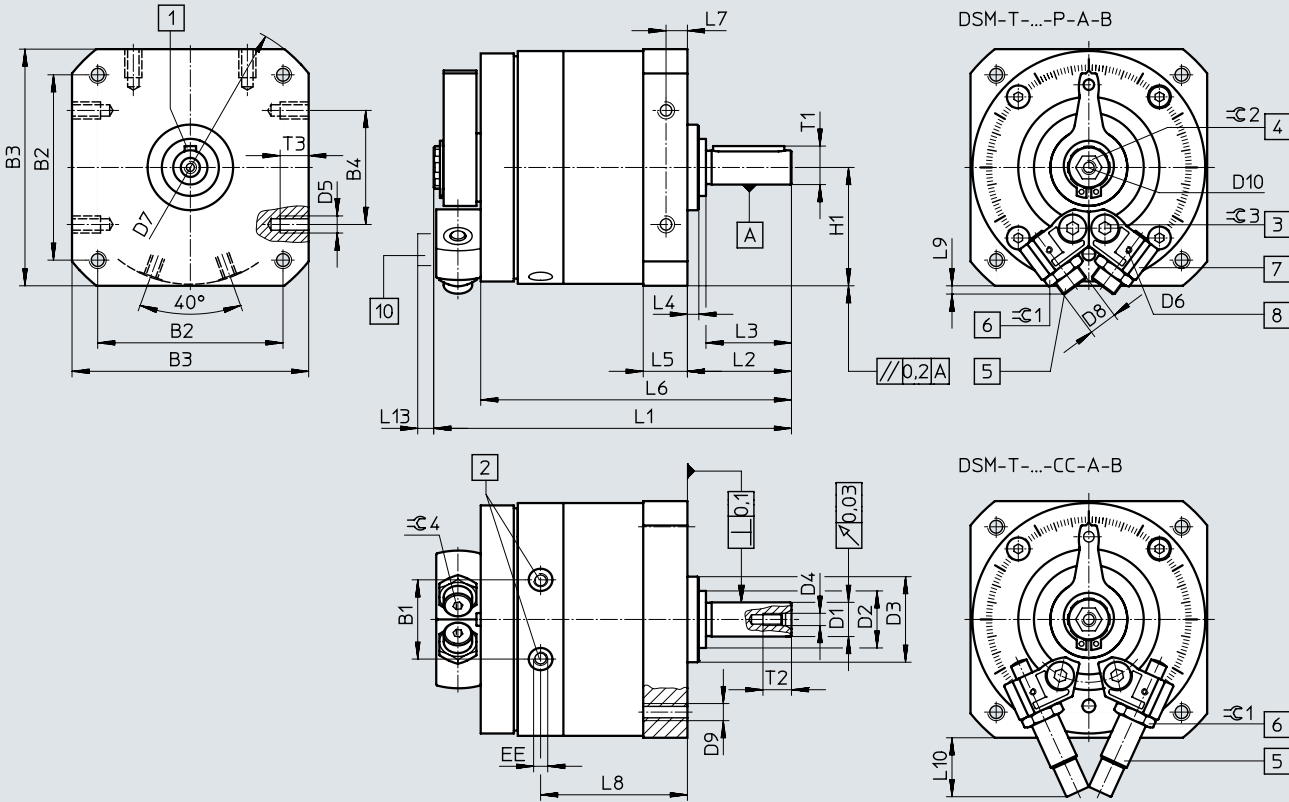
| Size | L11 | L12 | L14 max. | T3 +0.2 | ≈ 1 | ≈ 2 | ≈ 3 | ≈ 4 | ≈ 5 | ≈ 6 |
|------|-----|------|-------------|------------|-----|-----|-----|-----|-----|-----|
| 12 | 3 | 22.7 | 21.2 | 8 | 10 | 8 | 2.5 | 2.5 | 2.5 | 2.5 |
| 16 | 7.2 | 26.1 | 22 | 8 | 13 | 11 | 3 | 3 | 3 | 5 |
| 25 | 2.9 | 20.7 | 17 | 10 | 13 | 13 | 4 | 3 | 3 | 6 |
| 32 | 3.8 | 29.1 | 23 | 12 | 15 | 13 | 5 | 4 | 4 | 8 |
| 40 | 3.4 | 43.5 | 36.5 | 15 | 19 | 19 | 6 | 5 | 5 | 10 |
| 63 | 10 | 72.5 | - | 16 | 27 | 22 | 8 | 5 | - | - |

Data sheet DSM-12 ... 63

Dimensions

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DSM-T... – With spigot shaft and tandem rotary vanes



- [1] Featherkey position at 0°
- [2] Compressed air supply ports
- [3] Locking screw for clamping the stop
- [4] Manual override (internal hexagon). The position of the internal hexagon is not defined.
- [5] End-position adjustment
- [6] Lock nut for end-position adjustment
- [7] Infinitely adjustable stops
- [8] Mounting thread for sensor bracket
- [10] Sensor bracket

Data sheet DSM-12 ... 63

| Size | B1 ±0.5 | B2 | B3 | B4 | D1 ∅ g7 | D2 ∅ | D3 ∅ f8 |
|------|------------|---------|---------------------|--------|---------------|-------------------|---------------|
| 12 | 19.8 | 48±0.3 | 59±0.3 | 30±0.2 | 8 | 15±0.2 | 24 |
| 16 | 23.5 | 57±0.3 | 70±0.3 | 40±0.2 | 10 | 18 _{0.3} | 28 |
| 25 | 28 | 65±0.3 | 83±0.3 | 40±0.2 | 12 | 20 _{0.3} | 30 |
| 32 | 35.5 | 85±0.3 | 105±0.3 | 60±0.3 | 16 | 27 _{0.4} | 42 |
| 40 | 43.8 | 105±0.3 | 130±0.5 | 80±0.3 | 20 | 36 _{0.4} | 52 |
| 63 | 50.3 | 125±0.5 | 152 ^{+0.2} | 80±0.3 | 25 | 40±0.3 | 70 |

| Size | D4 | D5 | D6 | D7 ∅ | D8 | D9 | D10 |
|------|-----|-----|----|---------|---------|-----|-----|
| 12 | M3 | M4 | M2 | 78±0.3 | M8x1 | M4 | M4 |
| 16 | M3 | M5 | M2 | 91±0.3 | M10x1 | M5 | M5 |
| 25 | M4 | M6 | M2 | 106±0.3 | M10x1 | M6 | M5 |
| 32 | M5 | M8 | M2 | 135±0.3 | M12x1 | M8 | M5 |
| 40 | M6 | M10 | M2 | 168±0.5 | M16x1 | M10 | M6 |
| 63 | M10 | M10 | M3 | 200±0.5 | M22x1.5 | M12 | M6 |

| Size | EE | H1 ±0.2 | L1 | L2 +0.6 -0.7 | L3 | L4 ±0.4 | L5 |
|------|------|------------|-----------------|--------------------|--------|------------|---------------|
| 12 | M5 | 29.5 | 87.3±0.3 | 24.5 | 20±0.2 | 3 | 10.3±0.2/-0.3 |
| 16 | M5 | 35 | 106.6±1 | 28 | 23±0.2 | 2.6 | 13±0.2/-0.4 |
| 25 | M5 | 41.5 | 125.5±0.5 | 36.5 | 30±0.2 | 4 | 15.2±0.2/-0.4 |
| 32 | G1/8 | 52.5 | 164±0.5 | 51 | 40±0.2 | 8 | 19.2±0.2/-0.4 |
| 40 | G1/8 | 65 | 200.5±0.6 | 62 | 50±0.3 | 8 | 23.7±0.2/-0.4 |
| 63 | G1/4 | 76 | 254.4±0.4/-0.55 | 75.5 | 60±0.3 | 10.5 | 28.5±0.3/-0.5 |

| Size | L6 | L7 | L8 | L9 | L10 | L13 | T1 max. |
|------|-----------|---------|------|-----|------|-----|------------|
| 12 | 74.5±0.8 | 5±0.1 | 35.5 | 3 | 22.7 | 6.5 | 8.8 |
| 16 | 91±0.9 | 6.5±0.2 | 44.1 | 7.2 | 26.1 | 6.5 | 11.2 |
| 25 | 109±1 | 7.5±0.2 | 51.5 | 2.9 | 20.7 | 6.5 | 13.5 |
| 32 | 144±1.1 | 9.5±0.2 | 67.4 | 3.8 | 29.1 | 6.5 | 18 |
| 40 | 176±1.2 | 12±0.2 | 81 | 3.4 | 43.5 | 6.5 | 22.5 |
| 63 | 216.5±1.2 | 14±0.2 | 99 | 10 | 72.5 | 4.5 | 28 |

| Size | T2 +2 | T3 +0.2 | ≈G 1 | ≈G 2 | ≈G 3 | ≈G 4 | Featherkey to DIN 6885 ¹⁾ |
|------|----------|------------|------|------|------|------|---|
| 12 | 9 | 8 | 10 | 6 | 2.5 | 2.5 | A2x2x16 |
| 16 | 9 | 8 | 13 | 8 | 3 | 3 | A3x3x18 |
| 25 | 10 | 10 | 13 | 8 | 4 | 3 | A4x4x25 |
| 32 | 12.5 | 12 | 15 | 10 | 5 | 4 | A5x5x36 |
| 40 | 16 | 15 | 19 | 10 | 6 | 5 | A6x6x45 |
| 63 | 22 | 16 | 27 | 10 | 8 | 5 | A8x7x50 |

1) Included in the scope of delivery.

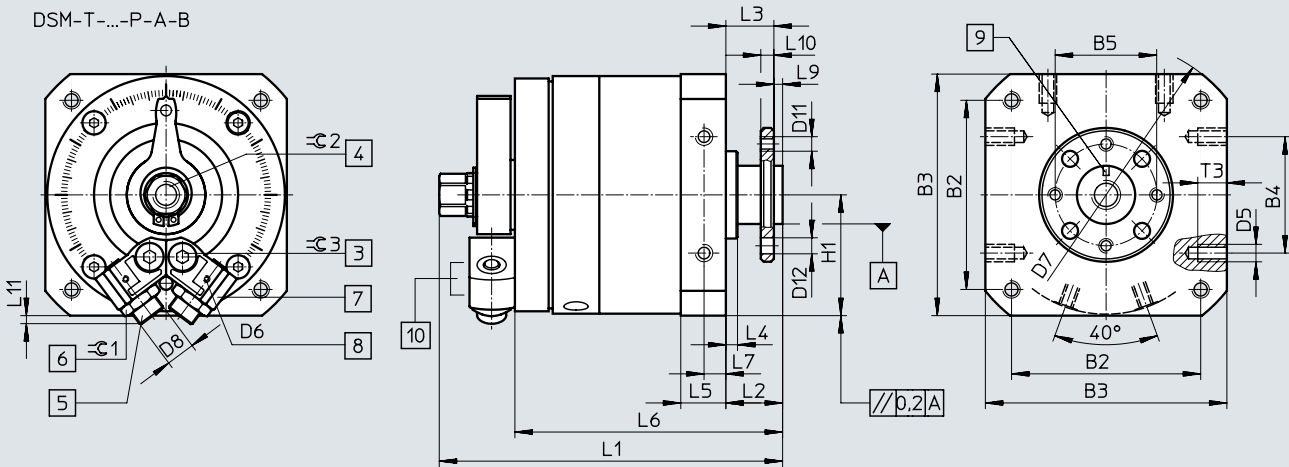
Data sheet DSM-12 ... 63

Dimensions

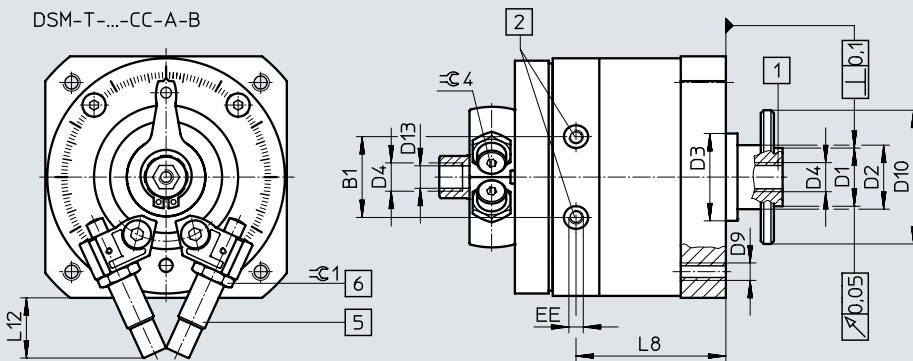
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DSM-T...-FW – With flange shaft and tandem rotary vanes

DSM-T...-P-A-B



DSM-T...-CC-A-B



- | | |
|--|---|
| [1] Flange shaft with through-hole | [6] Lock nut for end-position adjustment |
| [2] Compressed air supply ports | [7] Infinitely adjustable stops |
| [3] Locking screw for clamping the stop | [8] Mounting thread for sensor bracket |
| [4] Manual override (external hexagon). The position of the external hexagon is not defined. | [9] Position of marking corresponds to position of stop |
| [5] End-position adjustment | [10] Sensor bracket |

Data sheet DSM-12 ... 63

| Size | B1 ±0.5 | B2 | B3 | B4 | B5 | D1 ∅ f8 | D2 ∅ | D3 ∅ f8 | D4 |
|------|------------|---------|---------|--------|----|---------------|--------------------|---------------|------|
| 12 | 19.8 | 48±0.3 | 59±0.3 | 30±0.2 | 25 | 14 | 15±0.2 | 24 | M5 |
| 16 | 23.5 | 57±0.3 | 70±0.3 | 40±0.2 | 28 | 16 | 18 _{-0.3} | 28 | M5 |
| 25 | 28 | 65±0.3 | 83±0.3 | 40±0.2 | 35 | 20 | 20 _{-0.3} | 30 | G1/8 |
| 32 | 35.5 | 85±0.3 | 105±0.3 | 60±0.3 | 45 | 28 | 27 _{-0.4} | 42 | G1/8 |
| 40 | 43.8 | 105±0.3 | 130±0.5 | 80±0.3 | 54 | 36 | 36 _{-0.4} | 52 | G1/4 |
| 63 | 50.3 | 125±0.5 | 152±0.2 | 80±0.3 | 64 | 38 | 40±0.3 | 70 | G1/4 |

| Size | D5 | D6 | D7 ∅ | D8 | D9 | D10 ∅ | D11 | D12 H13 | D13 |
|------|-----|----|---------|---------|-----|----------|-----|------------|------|
| 12 | M4 | M2 | 78±0.3 | M8x1 | M4 | 33 | M3 | 3.4 | 4.2 |
| 16 | M5 | M2 | 91±0.3 | M10x1 | M5 | 38 | M4 | 4.5 | 4.2 |
| 25 | M6 | M2 | 106±0.3 | M10x1 | M6 | 46 | M5 | 5.5 | 8.6 |
| 32 | M8 | M2 | 135±0.3 | M12x1 | M8 | 60 | M6 | 6.5 | 8.6 |
| 40 | M10 | M2 | 168±0.5 | M16x1 | M10 | 70 | M8 | 9 | 11.5 |
| 63 | M10 | M3 | 200±0.5 | M22x1.5 | M12 | 88 | M8 | 12 | 11.5 |

| Size | EE | H1 ±0.2 | L1 | L2 +0.5 -0.85 | L3 +0.5 -0.62 | L4 ±0.4 | L5 | L6 ±1 | L7 |
|------|------|------------|-----------------------------|---------------------|---------------------|------------|---------------------------|----------|---------|
| 12 | M5 | 29.5 | 86.3 ^{+0.4/-0.65} | 13 | 11 | 3 | 10.3 ^{+0.2/-0.3} | 63 | 5±0.1 |
| 16 | M5 | 35 | 103 ^{+0.4/-0.65} | 15 | 13 | 2.6 | 13 ^{+0.2/-0.4} | 78 | 6.5±0.2 |
| 25 | M5 | 41.5 | 118 ^{+0.4/-0.65} | 19.5 | 16.5 | 4 | 15.2 ^{+0.2/-0.4} | 92 | 7.5±0.2 |
| 32 | G1/8 | 52.5 | 152.8 ^{+0.4/-0.65} | 27 | 23 | 8 | 19.2 ^{+0.2/-0.4} | 120 | 9.5±0.2 |
| 40 | G1/8 | 65 | 188.8 ^{+0.4/-0.7} | 33 | 28 | 8 | 23.7 ^{+0.2/-0.4} | 147 | 12±0.2 |
| 63 | G1/4 | 76 | 234.4 ^{+0.2/-0.55} | 37.5 | 31.5 | 10.5 | 28.5 ^{+0.3/-0.5} | 178.5 | 14±0.2 |

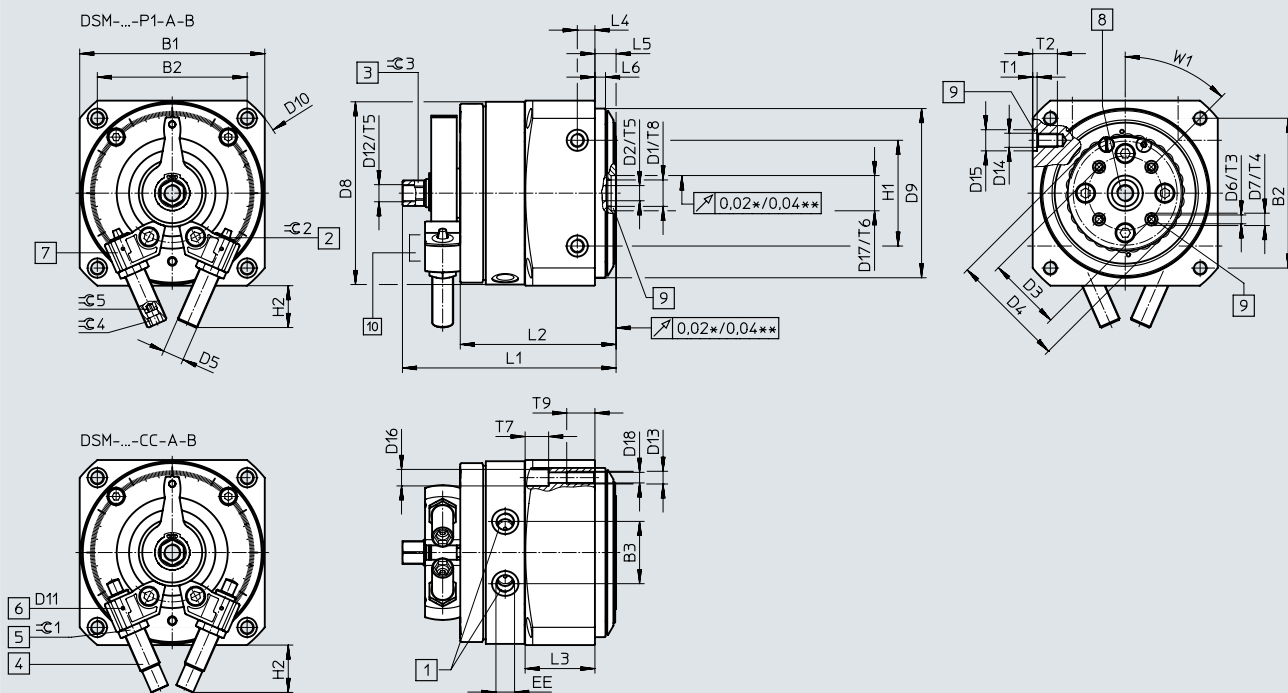
| Size | L8 | L9 -0.2 | L10 | L11 | L12 | T3 +0.2 | ∅ 1 | ∅ 2 | ∅ 3 | ∅ 4 |
|------|------|------------|---------|-----|------|------------|-----|-----|-----|-----|
| 12 | 35.5 | 2 | 3±0.1 | 3 | 22.7 | 8 | 10 | 8 | 2.5 | 2.5 |
| 16 | 44.1 | 2 | 4±0.1 | 7.2 | 26.1 | 8 | 13 | 11 | 3 | 3 |
| 25 | 51.5 | 3 | 4.5±0.1 | 2.9 | 20.7 | 10 | 13 | 13 | 4 | 3 |
| 32 | 67.4 | 4 | 6±0.1 | 3.8 | 29.1 | 12 | 15 | 13 | 5 | 4 |
| 40 | 81 | 5 | 7.5±0.1 | 3.4 | 43.5 | 15 | 19 | 19 | 6 | 5 |
| 63 | 99 | 6 | 9±0.2 | 10 | 72.5 | 16 | 27 | 22 | 8 | 5 |

Data sheet DSM-12 ... 63

Dimensions

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DSM-...-HD – With heavy-duty bearing



- [1] Compressed air supply ports
 - [2] Locking screw for clamping the stop
 - [3] Manual override (external hexagon). The position of the external hexagon is not defined.
 - [4] End-position adjustment
 - [5] Lock nut for end-position adjustment
 - [6] Mounting thread for sensor bracket
 - [7] Infinitely adjustable stops
 - [8] Flange shaft with through-hole
 - [9] Drilled hole for centring sleeve ZBH
 - [10] Sensor bracket
- * Size 12 ... 25
 ** Size 32 ... 63

Data sheet DSM-12 ... 63

| Size | B1 ±0.3 | B2 ±0.3 | B3 ±0.5 | D1 ¹⁾ | D2 ²⁾ ∅ | D3 ±0.02 | D4 | D5 DSM-...-P1/DSM-...-CC |
|------|------------|------------|------------|------------------|-----------------------|-------------|-----|-----------------------------|
| 12 | 59 | 48 | 19.8 | M5 | – | 22 | 36 | M8x1 |
| 16 | 70 | 57 | 23.5 | M5 | – | 28 | 45 | M10x1 |
| 25 | 83 | 65 | 28 | G1/8 | – | 30 | 50 | M10x1 |
| 32 | 105 | 85 | 35.5 | 15 | G1/8 | 42 | 65 | M12x1 |
| 40 | 130 | 105 | 43.8 | 20 | G1/4 | 56 | 90 | M16x1 |
| 63 | 152 | 125 | 50.3 | 20 | G1/4 | 70 | 105 | M22x1.5 |

| Size | D6 | D7 H7 | D8 | D9 f8 | D10 ±0.5 | D11 | D12 | D13 | D14 |
|------|----|----------|-------|----------|-------------|-----|------|-----|-----|
| 12 | M3 | 5 | 57.5 | 58 | 78 | M2 | M5 | M4 | M4 |
| 16 | M4 | 7 | 68.5 | 68 | 91 | M2 | M5 | M5 | M5 |
| 25 | M5 | 7 | 81.5 | 76 | 106 | M2 | G1/8 | M6 | M6 |
| 32 | M5 | 7 | 103.5 | 96 | 135 | M2 | G1/8 | M8 | M8 |
| 40 | M8 | 12 | 128 | 126 | 168 | M2 | G1/4 | M10 | M10 |
| 63 | M8 | 12 | 149 | 150 | 200 | M3 | G1/4 | M12 | M10 |

| Size | D15 H7 | D16 | D17 H8 | D18 | EE | H1 ±0.03 | H2 max. DSM-...-P1 DSM-...-CC | | L1 +0.4 –0.65 | L2 +1 |
|------|-----------|-----|-----------|------|------|-------------|---------------------------------------|------|---------------------|----------|
| | 12 | 7 | 6 | 12 | 3.3 | M5 | 30 | 21.2 | 22.7 | 76.3 |
| 16 | 7 | 8 | 12 | 4.2 | M5 | 40 | 22 | 26.1 | 88.5 | 63.6 |
| 25 | 9 | 10 | 15 | 5.1 | M5 | 40 | 17 | 20.7 | 98.7 | 72.7 |
| 32 | 12 | 11 | 20 | 6.8 | G1/8 | 60 | 23 | 29.1 | 121 | 88.5 |
| 40 | 12 | 15 | 25 | 8.5 | G1/8 | 80 | 36.5 | 43.5 | 154 | 112 |
| 63 | 12 | 18 | 25 | 10.2 | G1/4 | 80 | 44 | 72.5 | 185.5 | 129.5 |

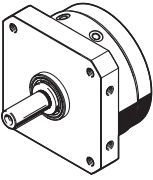
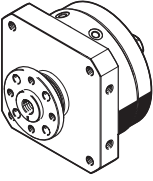
| Size | L3 | L4 ±0.1 | L5 ±0.2 | L6 ±0.1 | T1 +0.1 | T2 | T3 | T4 +0.1 | T5 | T6 +0.1 |
|------|------|------------|------------|------------|------------|----|-----|------------|----|------------|
| 12 | 22.3 | 10 | 10 | 4 | 1.5 | 9 | 9 | 1.2 | 6 | 2.5 |
| 16 | 27.6 | 10 | 10 | 4 | 1.5 | 9 | 9 | 1.5 | 6 | 2.5 |
| 25 | 33.4 | 10 | 10 | 6 | 2 | 12 | 8 | 1.5 | 8 | 2.5 |
| 32 | 39.6 | 10 | 12 | 6 | 2.5 | 14 | 9.5 | 1.5 | 8 | 2.8 |
| 40 | 52.7 | 12 | 14 | 5.5 | 2.5 | 17 | 15 | 2.5 | 12 | 2.8 |
| 63 | 58 | 14 | 16 | 10 | 2.5 | 18 | 14 | 2.5 | 15 | 2.8 |

| Size | T7 | T8 | T9 | ∅ 1 | ∅ 2 | ∅ 3 h13 | ∅ 4 DSM-...-P1 DSM-...-CC | | ∅ 5 DSM-...-P1 | W1 |
|------|-----|-----|-----|-----|-----|------------|--------------------------------|---|-------------------|-----|
| | 12 | 6.3 | 5.5 | 12 | 10 | 2.5 | 8 | 5 | 2.5 | 2.5 |
| 16 | 8.5 | 6 | 14 | 13 | 3 | 11 | 6 | 3 | 3 | 45° |
| 25 | 10 | 5.3 | 16 | 13 | 4 | 13 | 6 | 3 | 3 | 45° |
| 32 | 9.5 | – | 20 | 15 | 5 | 13 | 8 | 4 | 4 | 45° |
| 40 | 15 | – | 24 | 19 | 6 | 19 | 8 | 5 | 5 | 45° |
| 63 | 18 | – | 28 | 27 | 8 | 22 | 10 | 5 | 5 | 45° |

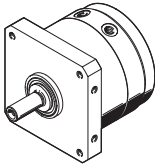
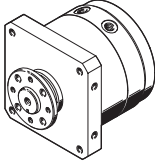
1) Thread for compressed air through-feed with size 12 ... 25

2) Thread for compressed air through-feed with size 32 ... 63

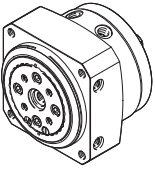
Data sheet DSM-12 ... 63

| Ordering data – DSM-..., semi-rotary drive | | | | | |
|--|---|--------------|--------|----------------------|----------------------|
| Semi-rotary drive | Characteristics | Swivel angle | Size | Part no. | Type |
| Spigot shaft | | | | | |
|  | Without cushioning components | 270° | 12 | 547591 | DSM-12-270-A-B |
| | | | 16 | 547592 | DSM-16-270-A-B |
| | | | 25 | 547593 | DSM-25-270-A-B |
| | | | 32 | 547594 | DSM-32-270-A-B |
| | | | 40 | 547595 | DSM-40-270-A-B |
| | | | 63 | 552083 | DSM-63-270-A-B |
| | P With elastic cushioning components | 270° | 12 | 547570 | DSM-12-270-P-A-B |
| | | | 16 | 547574 | DSM-16-270-P-A-B |
| | | | 25 | 547578 | DSM-25-270-P-A-B |
| | | | 32 | 547582 | DSM-32-270-P-A-B |
| | | | 40 | 547586 | DSM-40-270-P-A-B |
| | | | 63 | 552079 | DSM-63-270-P-A-B |
| | P1 With adjustable, elastic cushioning components | 246° | 12 | 566203 | DSM-12-270-P1-A-B |
| | | | 16 | 566205 | DSM-16-270-P1-A-B |
| | | | 25 | 566207 | DSM-25-270-P1-A-B |
| | | | 32 | 566209 | DSM-32-270-P1-A-B |
| | | 240° | 40 | 566211 | DSM-40-270-P1-A-B |
| | | | 63 | 566213 | DSM-63-270-P1-A-B |
| | CC With shock absorber | 246° | 12 | 547572 | DSM-12-270-CC-A-B |
| | | | 16 | 547576 | DSM-16-270-CC-A-B |
| | | | 25 | 547580 | DSM-25-270-CC-A-B |
| 32 | | | 547584 | DSM-32-270-CC-A-B | |
| 240° | | 40 | 547588 | DSM-40-270-CC-A-B | |
| | | 63 | 552081 | DSM-63-270-CC-A-B | |
| Flange shaft | | | | | |
|  | Without cushioning components | 270° | 12 | 547596 | DSM-12-270-FW-A-B |
| | | | 16 | 547597 | DSM-16-270-FW-A-B |
| | | | 25 | 547598 | DSM-25-270-FW-A-B |
| | | | 32 | 547599 | DSM-32-270-FW-A-B |
| | | | 40 | 547600 | DSM-40-270-FW-A-B |
| | | | 63 | 552084 | DSM-63-270-FW-A-B |
| | P With elastic cushioning components | 270° | 12 | 547571 | DSM-12-270-P-FW-A-B |
| | | | 16 | 547575 | DSM-16-270-P-FW-A-B |
| | | | 25 | 547579 | DSM-25-270-P-FW-A-B |
| | | | 32 | 547583 | DSM-32-270-P-FW-A-B |
| | | | 40 | 547587 | DSM-40-270-P-FW-A-B |
| | | | 63 | 552080 | DSM-63-270-P-FW-A-B |
| | P1 With adjustable, elastic cushioning components | 246° | 12 | 566204 | DSM-12-270-P1-FW-A-B |
| | | | 16 | 566206 | DSM-16-270-P1-FW-A-B |
| | | | 25 | 566208 | DSM-25-270-P1-FW-A-B |
| | | | 32 | 566210 | DSM-32-270-P1-FW-A-B |
| | | 240° | 40 | 566212 | DSM-40-270-P1-FW-A-B |
| | | | 63 | 566214 | DSM-63-270-P1-FW-A-B |
| | CC Shock absorber | 246° | 12 | 547573 | DSM-12-270-CC-FW-A-B |
| | | | 16 | 547577 | DSM-16-270-CC-FW-A-B |
| | | | 25 | 547581 | DSM-25-270-CC-FW-A-B |
| 32 | | | 547585 | DSM-32-270-CC-FW-A-B | |
| 240° | | 40 | 547589 | DSM-40-270-CC-FW-A-B | |
| | | 63 | 552082 | DSM-63-270-CC-FW-A-B | |

Data sheet DSM-12 ... 63

| Ordering data – DSM-T..., semi-rotary drive with tandem rotary vanes | | | | | |
|--|--------------------------------------|--------------|------|----------|------------------------|
| Semi-rotary drive | Characteristics | Swivel angle | Size | Part no. | Type |
| Spigot shaft | | | | | |
|  | Without cushioning components | 270° | 12 | 1145122 | DSM-T-12-270-A-B |
| | | | 16 | 1145123 | DSM-T-16-270-A-B |
| | | | 25 | 1145124 | DSM-T-25-270-A-B |
| | | | 32 | 1145125 | DSM-T-32-270-A-B |
| | | | 40 | 1145126 | DSM-T-40-270-A-B |
| | | | 63 | 1145127 | DSM-T-63-270-A-B |
| | P With elastic cushioning components | 270° | 12 | 1145086 | DSM-T-12-270-P-A-B |
| | | | 16 | 1145092 | DSM-T-16-270-P-A-B |
| | | | 25 | 1145098 | DSM-T-25-270-P-A-B |
| | | | 32 | 1145104 | DSM-T-32-270-P-A-B |
| | | | 40 | 1145110 | DSM-T-40-270-P-A-B |
| | | | 63 | 1145116 | DSM-T-63-270-P-A-B |
| | CC With shock absorber | 246° | 12 | 1145088 | DSM-T-12-270-CC-A-B |
| | | | 16 | 1145094 | DSM-T-16-270-CC-A-B |
| | | | 25 | 1145100 | DSM-T-25-270-CC-A-B |
| | | 240° | 32 | 1145106 | DSM-T-32-270-CC-A-B |
| | | | 40 | 1145112 | DSM-T-40-270-CC-A-B |
| | | | 63 | 1145118 | DSM-T-63-270-CC-A-B |
| Flange shaft | | | | | |
|  | Without cushioning components | 270° | 12 | 1145128 | DSM-T-12-270-FW-A-B |
| | | | 16 | 1145129 | DSM-T-16-270-FW-A-B |
| | | | 25 | 1145130 | DSM-T-25-270-FW-A-B |
| | | | 32 | 1145131 | DSM-T-32-270-FW-A-B |
| | | | 40 | 1145132 | DSM-T-40-270-FW-A-B |
| | | | 63 | 1145133 | DSM-T-63-270-FW-A-B |
| | P With elastic cushioning components | 270° | 12 | 1145087 | DSM-T-12-270-P-FW-A-B |
| | | | 16 | 1145093 | DSM-T-16-270-P-FW-A-B |
| | | | 25 | 1145099 | DSM-T-25-270-P-FW-A-B |
| | | | 32 | 1145105 | DSM-T-32-270-P-FW-A-B |
| | | | 40 | 1145111 | DSM-T-40-270-P-FW-A-B |
| | | | 63 | 1145117 | DSM-T-63-270-P-FW-A-B |
| | CC Shock absorber | 246° | 12 | 1145089 | DSM-T-12-270-CC-FW-A-B |
| | | | 16 | 1145095 | DSM-T-16-270-CC-FW-A-B |
| | | | 25 | 1145101 | DSM-T-25-270-CC-FW-A-B |
| | | 240° | 32 | 1145107 | DSM-T-32-270-CC-FW-A-B |
| | | | 40 | 1145113 | DSM-T-40-270-CC-FW-A-B |
| | | | 63 | 1145119 | DSM-T-63-270-CC-FW-A-B |

Data sheet DSM-12 ... 63

| Ordering data – DSM-...-HD, semi-rotary drive with heavy-duty guide | | | | | |
|--|---|--------------|---------|----------------------|----------------------|
| Semi-rotary drive | Characteristics | Swivel angle | Size | Part no. | Type |
| Heavy-duty bearing | | | | | |
|  | Without cushioning components | 270° | 12 | 1369110 | DSM-12-270-HD-A-B |
| | | | 16 | 1369111 | DSM-16-270-HD-A-B |
| | | | 25 | 1369112 | DSM-25-270-HD-A-B |
| | | | 32 | 1369113 | DSM-32-270-HD-A-B |
| | | | 40 | 1369114 | DSM-40-270-HD-A-B |
| | | | 63 | 1369115 | DSM-63-270-HD-A-B |
| | P1 With adjustable, elastic cushioning components | 246° | 12 | 1369116 | DSM-12-270-P1-HD-A-B |
| | | | 16 | 1369117 | DSM-16-270-P1-HD-A-B |
| | | | 25 | 1369118 | DSM-25-270-P1-HD-A-B |
| | | 240° | 32 | 1369119 | DSM-32-270-P1-HD-A-B |
| | | | 40 | 1369120 | DSM-40-270-P1-HD-A-B |
| | | | 63 | 1369121 | DSM-63-270-P1-HD-A-B |
| | CC With shock absorber | 246° | 12 | 1369122 | DSM-12-270-CC-HD-A-B |
| | | | 16 | 1369123 | DSM-16-270-CC-HD-A-B |
| | | | 25 | 1369124 | DSM-25-270-CC-HD-A-B |
| 240° | | 32 | 1369125 | DSM-32-270-CC-HD-A-B | |
| | | 40 | 1369126 | DSM-40-270-CC-HD-A-B | |
| | | 63 | 1369127 | DSM-63-270-CC-HD-A-B | |

Accessories

Free wheel unit FLSM

for size 6, 8

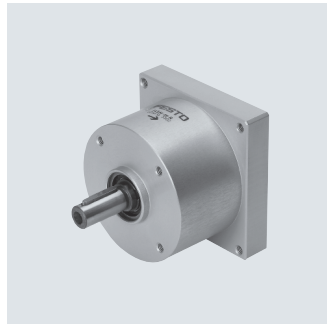

Material:

Housing: anodised aluminium

Shaft, sleeve:

Size 6, 8: steel

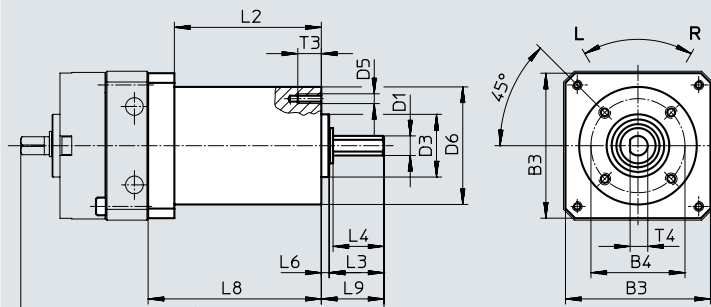
Size 10: hardened steel

-  - **Note**

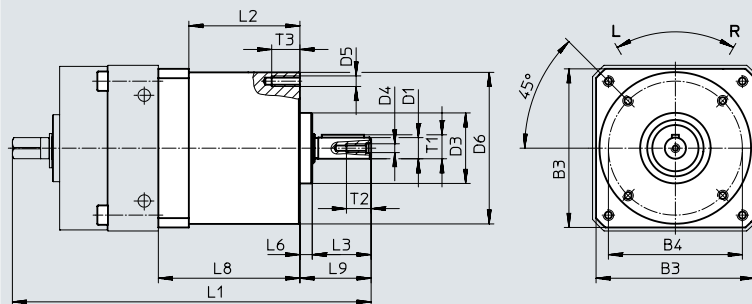
The minimum possible rotation angle is 3°. However, the switching accuracy is dependent on speed and load.

Dimensions and ordering data

FLSM-6/8



FLSM-10



| For size | B3 | B4 | D1 ∅ | D3 ∅ | D4 | D5 | D6 ∅ | L1 | L2 | L3 | L4 | L6 |
|----------|------|-------|---------|---------|------|----|---------|------|-----------|------|----|------|
| | | ±0.15 | g7 | h8 | | | ±0.3 | | | | | ±0.2 |
| 6 | 29.5 | 23 | 4 | 14 | – | M3 | 28 | 85.8 | 36 ±0.1 | 10.8 | 10 | 2 |
| 8 | 37 | 24 | 5 | 16 | – | M3 | 30 | 94.5 | 37.5 ±0.1 | 14 | 13 | 2 |
| 10 | 45 | 38 | 6 | 20 | M2.5 | M3 | 43 | 101 | 30 ±0.1 | 16.7 | – | 3.5 |

| For size | L8 | L9 | T1 | T2 | T3 | T4 | Featherkey to DIN 6885 | CRC ¹⁾ | Weight [g] | Direction of rotation | Part no. | Type |
|----------|------|------|-----|----|----|-----|---------------------------|-------------------|---------------|------------------------|----------|-----------|
| | ±0.1 | | | | | | | | | | | |
| 6 | 43 | 12.8 | – | – | 5 | 3.5 | – | 2 | 100 | Anticlockwise rotation | 188523 | FLSM-6-L |
| | | | | | | | | | | Clockwise rotation | 188522 | FLSM-6-R |
| 8 | 44.5 | 16 | – | – | 6 | 4.5 | – | 2 | 125 | Anticlockwise rotation | 188525 | FLSM-8-L |
| | | | | | | | | | | Clockwise rotation | 188524 | FLSM-8-R |
| 10 | 40 | 20.2 | 6.8 | 7 | 8 | – | A2x2x12 | 2 | 160 | Anticlockwise rotation | 188527 | FLSM-10-L |
| | | | | | | | | | | Clockwise rotation | 188526 | FLSM-10-R |

1) More information: www.festo.com/x/topic/kbk

Accessories

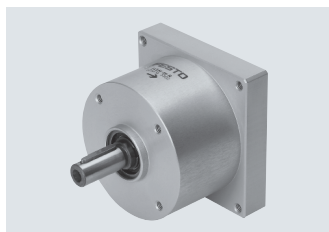
Free wheel unit FLSM


For size 12 ... 40

Material:

Housing: anodised aluminium

Shaft, sleeve: hardened steel

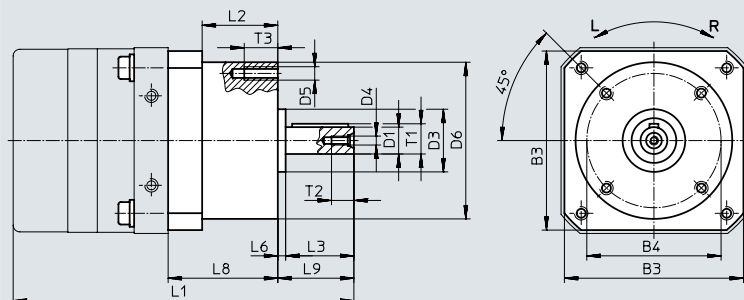


 **Note**

The minimum possible rotation angle is 3°. However, the switching accuracy is dependent on speed and load.

Dimensions and ordering data

FLSM-12 ... 40



| For size | B3 | B4 | D1 ∅ g7 | D3 ∅ h8 | D4 | D5 | D6 ∅ ±0.3 | L1 | L2 | L3 | L6 | L8 |
|----------|-----|-------|---------------|---------------|----|----|-----------------|-------|-----------|----|------|------|
| | | ±0.15 | | | | | | | | | +0.2 | ±0.1 |
| 12 | 55 | 42 | 8 | 25 | M3 | M3 | 48.5 | 125 | 37 ±0.4 | 20 | 3.5 | 47.3 |
| 16 | 65 | 50 | 10 | 24 | M3 | M4 | 60 | 137 | 34 ±0.4 | 23 | 3.5 | 47 |
| 25 | 80 | 60 | 12 | 28 | M4 | M6 | 70 | 152 | 34 ±0.4 | 30 | 3.5 | 49 |
| 32 | 100 | 83 | 16 | 42 | M5 | M6 | 95 | 197.8 | 42.8 ±0.4 | 40 | 7.2 | 60.8 |
| 40 | 120 | 96 | 20 | 52 | M6 | M8 | 110 | 244.5 | 54 ±0.4 | 50 | 6 | 77 |

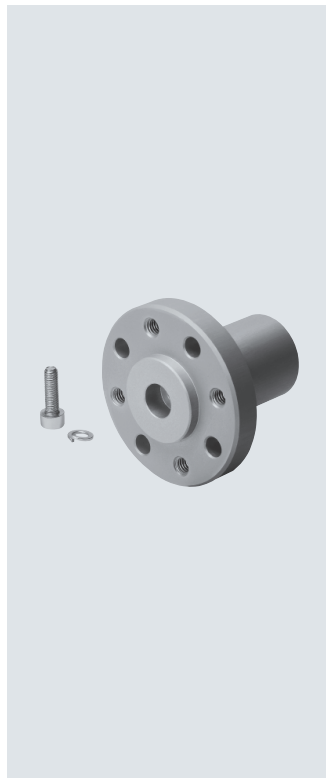
| For size | L9 | T1 | T2 | T3 | Featherkey to DIN 6885 | CRC ¹⁾ | Weight [g] | Direction of rotation | Part no. | Type |
|----------|------|------|------|----|---------------------------|-------------------|---------------|------------------------|----------|-----------|
| 12 | 24.5 | 8.8 | 9 | 8 | A2x2x16 | 2 | 300 | Anticlockwise rotation | 164229 | FLSM-12-L |
| | | | | | | | | Clockwise rotation | 164234 | FLSM-12-R |
| 16 | 27.4 | 11.2 | 9 | 10 | A3x3x18 | 2 | 450 | Anticlockwise rotation | 164230 | FLSM-16-L |
| | | | | | | | | Clockwise rotation | 164235 | FLSM-16-R |
| 25 | 34 | 13.5 | 10 | 15 | A4x4x25 | 2 | 650 | Anticlockwise rotation | 164231 | FLSM-25-L |
| | | | | | | | | Clockwise rotation | 164236 | FLSM-25-R |
| 32 | 48.5 | 18 | 12.5 | 15 | A5x5x36 | 2 | 1500 | Anticlockwise rotation | 164232 | FLSM-32-L |
| | | | | | | | | Clockwise rotation | 164237 | FLSM-32-R |
| 40 | 58 | 22.5 | 16 | 15 | A6x6x45 | 2 | 2350 | Anticlockwise rotation | 164233 | FLSM-40-L |
| | | | | | | | | Clockwise rotation | 164238 | FLSM-40-R |

1) More information: www.festo.com/x/topic/kbk

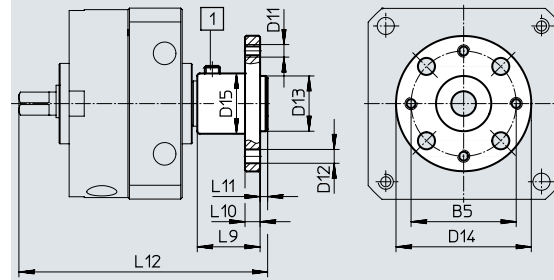
Accessories

Push-on flange FWSR

Material:
Anodised wrought aluminium alloy
Free of copper and PTFE

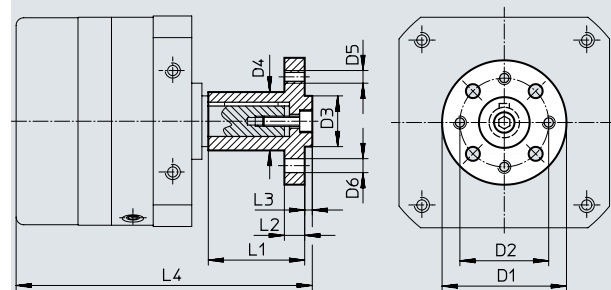


FSLM-6/8



[1] Threaded pin M3x5 DIN 916

FSLM-10



Dimensions and ordering data

| For size | B5 | D11 | D12 ∅ H13 | D13 ∅ | D14 ∅ | D15 ∅ +0.4 |
|----------|----|-----|-----------------|------------------|--------------------|------------------|
| 6 | 16 | M3 | 3.4 | 8 _{g7} | 23 | 10 |
| 8 | 21 | M3 | 3.4 | 11 _{g7} | 27 | 12 |
| 10 | 21 | M3 | 3.4 | 11 _{f8} | 30 _{-0.5} | 12 |
| 12 | 25 | M3 | 3.4 | 14 _{f8} | 35 _{-0.5} | 15 |
| 16 | 28 | M4 | 4.5 | 16 _{f8} | 40 _{-0.5} | 17 |
| 25 | 35 | M5 | 5.5 | 20 _{f8} | 50 _{-0.5} | 23 |
| 32 | 45 | M6 | 6.5 | 28 _{f8} | 60 _{-0.5} | 28 |
| 40 | 54 | M8 | 9 | 36 _{f8} | 70 _{-0.5} | 38 |

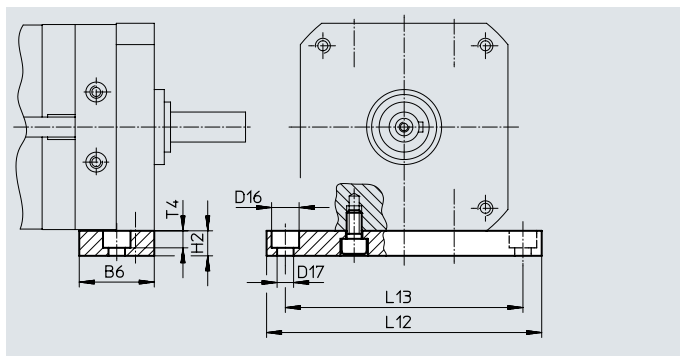
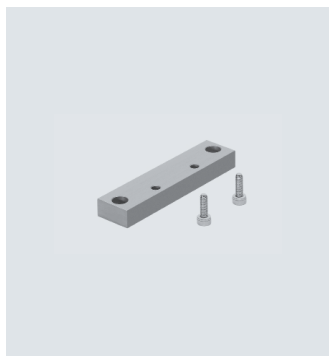
| For size | L9 | L10 | L11 | L12 | CRC ¹⁾ | Weight [g] | Part no. | Type |
|----------|------|-----|-----|-------|-------------------|---------------|----------|---------|
| 6 | 10.5 | 3 | 1.5 | 45 | 2 | 6 | 185948 | FWSR-6 |
| 8 | 12.5 | 3 | 1.5 | 51 | 2 | 8 | 185949 | FWSR-8 |
| 10 | 22 | 3 | 1.6 | 68.6 | 2 | 10 | 32798 | FWSR-10 |
| 12 | 25 | 3 | 3 | 85.5 | 2 | 19 | 14659 | FWSR-12 |
| 16 | 28 | 5 | 3 | 98.8 | 2 | 30 | 13239 | FWSR-16 |
| 25 | 38 | 8 | 3 | 116.5 | 2 | 70 | 13240 | FWSR-25 |
| 32 | 48 | 10 | 4 | 151.5 | 2 | 120 | 13241 | FWSR-32 |
| 40 | 60 | 11 | 5 | 186.5 | 2 | 240 | 14656 | FWSR-40 |

1) More information: www.festo.com/x/topic/kbk

Accessories

Mounting plate HSM

Material:
Aluminium



Dimensions and ordering data

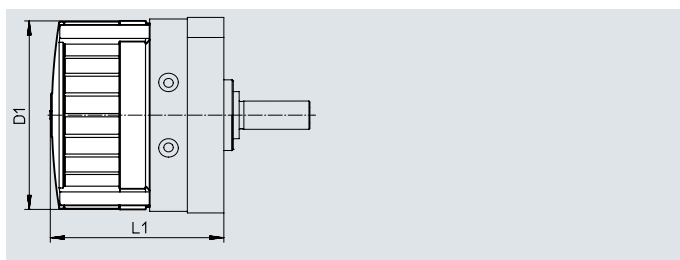
| For size | B6 | D16 ∅ | D17 ∅ | H2 | L12 | L13 | T4 | CRC ¹⁾ | Weight [g] | Part no. | Type |
|----------|----|----------|----------|----|-----|-----|-----|-------------------|---------------|----------|--------|
| 12 | 20 | 8 | 4.5 | 10 | 84 | 72 | 4.6 | 2 | 48 | 165571 | HSM-12 |
| 16 | 28 | 10 | 5.5 | 10 | 98 | 84 | 5.7 | 2 | 80 | 165572 | HSM-16 |
| 25 | 30 | 11 | 6.6 | 10 | 110 | 95 | 6.8 | 2 | 94 | 165573 | HSM-25 |
| 32 | 40 | 15 | 9 | 15 | 145 | 125 | 9 | 2 | 246 | 165574 | HSM-32 |
| 40 | 45 | 18 | 11 | 20 | 180 | 155 | 11 | 2 | 459 | 165575 | HSM-40 |

1) More information: www.festo.com/x/topic/kbk

Cover cap AKM

Material:
Polyamide


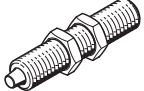

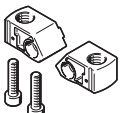
Cannot be used in combination with inductive proximity switch SIEN.



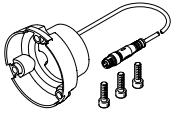
Dimensions and ordering data

| For size | D1 ∅ | L1 | | | Part no. | Type |
|----------|---------|-----------|-----------|---------------|----------|--------|
| | | DSM-... | DSM-T... | DSM-...-HD... | | |
| 12 | 59 | 56.2±1.2 | 75.2±1.2 | 68.2±1.2 | 549194 | AKM-12 |
| 16 | 70 | 68±1.2 | 92±1.2 | 82.6±1.2 | 549195 | AKM-16 |
| 25 | 83 | 73.4±1.2 | 101.5±1.2 | 91.6±1.2 | 549196 | AKM-25 |
| 32 | 105 | 89.7±1.5 | 126.7±1.5 | 110.2±1.5 | 549197 | AKM-32 |
| 40 | 130 | 107.1±1.5 | 152.1±1.5 | 136.1±1.5 | 549198 | AKM-40 |


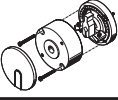
Accessories

| Ordering data | | For size | Description | Part no. | Type | PU ¹⁾ |
|--|--------|---|------------------------------|----------------|------|------------------|
| Cushioning kit | | | | | | |
|  | 12 | <ul style="list-style-type: none"> Elastic cushioning components with fixed stop Included in the scope of delivery for semi-rotary drive DSM-...-P | 550657 | DSM-12-P-B | 2 | |
| | 16, 25 | | 550658 | DSM-16/25-P-B | | |
| | 32 | | 550659 | DSM-32-P-B | | |
| | 40 | | 550660 | DSM-40-P-B | | |
| | 63 | | 552086 | DSM-63-P-B | | |
| Shock absorber | | | | | | |
|  | 12 | <ul style="list-style-type: none"> Adjustable, elastic cushioning components with fixed stop Included in the scope of delivery for semi-rotary drive DSM-...-P1 | Data sheets → Internet: dyef | | 1 | |
| | 16, 25 | | 548373 | DYEF-M8-Y1F | | |
| | 32 | | 548374 | DYEF-M10-Y1F | | |
| | 40 | | 548375 | DYEF-M12-Y1F | | |
| | 63 | | 548377 | DYEF-M16-Y1F | | |
| Shock absorber | | | | | | |
|  | 12 | <ul style="list-style-type: none"> Self-adjusting shock absorbers with fixed stop Included in the scope of delivery for semi-rotary drive DSM-...-CC | Data sheets → Internet: dysc | | 1 | |
| | 16, 25 | | 548011 | DYSC-5-5-Y1F | | |
| | 32 | | 548012 | DYSC-7-5-Y1F | | |
| | 40 | | 548013 | DYSC-8-8-Y1F | | |
| | 63 | | 548014 | DYSC-12-12-Y1F | | |
| Cushioning mount | | | | | | |
|  | 12 | <ul style="list-style-type: none"> For mounting elastic cushioning components DSM-...-P-B, DYEF or shock absorber DYSC | 547900 | DSM-12-B | 2 | |
| | 16 | | 547901 | DSM-16-B | | |
| | 25 | | 547902 | DSM-25-B | | |
| | 32 | | 547903 | DSM-32-B | | |
| | 40 | | 547904 | DSM-40-B | | |
| 63 | 552085 | DSM-63-B | | | | |




1) Packaging unit

| Ordering data – Position sensor | | | | | | |
|---|----|---|-------------|---------------------------|------|------------------|
| Ordering data | | For size | Description | Part no. | Type | PU ¹⁾ |
|  | 6 | <ul style="list-style-type: none"> For sensing the end positions Simple and reliable operation using one pushbutton Only one connecting cable required Possible sensing range: 0 ... 270° Repetition accuracy: ≤ 1° Number of switching outputs: 2 Switching output: PNP/NPN Switching element: N/O contact / N/C contact | 2619969 | SRBS-Q12-6-E270-EP-1-S-M8 | 1 | |
| | 8 | | 2619972 | SRBS-Q12-8-E270-EP-1-S-M8 | | |
| | 10 | | 2412001 | SRBS-Q1-10-E270-EP-1-S-M8 | | |

Accessories

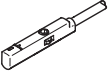
| Ordering data – Kits | | | | | |
|--|----------|---|----------|---------------|--|
| | For size | Description | Part no. | Type | |
| Mounting kit Data sheets → Internet: wsm | | | | | |
|  | 6 | For proximity switches SME/SMT-10 | 173205 | WSM-6-SME-10 | |
| | 8 | | 173206 | WSM-8-SME-10 | |
| | 10 | | 173207 | WSM-10-SME-10 | |
| Stop kit Data sheets → Internet: ksm | | | | | |
|  | 6 | For adjusting the swivel angle, max. 180° | 175833 | KSM-6 | |
| | 8 | | 175834 | KSM-8 | |
| | 10 | For adjusting the swivel angle, max. 200° | 175835 | KSM-10 | |

| Ordering data – Adapter kit | | | | | |
|--|----------|--|----------|---------------|--|
| | For size | Description | Part no. | Type | |
|  | 6 | For attaching mounting kit WSM to stop kit KSM | 3617044 | DADP-AK-Q1-6 | |
| | 8 | | 3617045 | DADP-AK-Q1-8 | |
| | 10 | | 3617046 | DADP-AK-Q1-10 | |

| Ordering data – Sensor brackets | | | | | |
|--|--------------------|--|----------|---------------|------------------|
| | For size | Description | Part no. | Type | PU ¹⁾ |
|  | 12, 16, 25, 32, 40 | For proximity switches SME-/SMT-10 | 550661 | SL-DSM-B | 2 |
| | | For proximity switches SME-/SMT-8 | | | |
|  | 63 | For proximity switches SME-/SMT-8 | 552088 | SL-DSM-63-B | 2 |
| | | For inductive proximity switches SIEN-M5 | | | |
|  | 12, 16, 25, 32, 40 | For inductive proximity switches SIEN-M5 | 1130882 | SL-DSM-S-M5-B | 2 |
| | | For inductive proximity switches SIEN-M8 | 1132360 | SL-DSM-S-M8-B | |

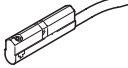
1) Packaging unit

Proximity switches for size 6, 8, 12, 25, 32, 40 (not suitable for size 10 and 16)

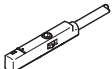
| Ordering data – Proximity switches for C-slot, magnetoresistive | | | | | | Data sheets → Internet: smt |
|--|--|------------------|---|------------------|----------|-----------------------------|
| | Type of mounting | Switching output | Electrical connection, outlet direction of connection | Cable length [m] | Part no. | Type |
| N/O contact | | | | | | |
|  | With size 6, 8: via mounting kit WSM-...SME-10 With size 12, 25, 32, 40: mounted on the DSM using sensor bracket SL-DSM-B | PNP | Cable, 3-wire, in-line | 2.5 | 551373 | SMT-10M-PS-24V-E-2,5-L-OE |
| | | | Plug M8x1, 3-pin, in-line | 0.3 | 551375 | SMT-10M-PS-24V-E-0,3-L-M8D |

Accessories

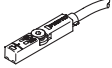
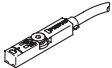
Proximity switches for size 6 ... 40

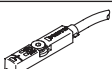
| Ordering data – Proximity switches for C-slot, magnetic reed | | | | | | | Data sheets → Internet: sme |
|---|--|------------------|---|------------------|----------|------------------|-----------------------------|
| | Type of mounting | Switching output | Electrical connection, outlet direction of connection | Cable length [m] | Part no. | Type | |
| N/O contact | | | | | | | |
|  | With size 6, 8, 10: via mounting kit WSM-...SME-10 With size 12 ... 40: mounted on the DSM using sensor bracket SL-DSM-B | Contacting | Cable, 3-wire, in-line | 2.5 | 173210 | SME-10-KL-LED-24 | |
| | | | Plug M8x1, 3-pin, in-line | 0.3 | 173212 | SME-10-SL-LED-24 | |

Proximity switches for size 12 ... 40

| Ordering data – Proximity switches for C-slot, magnetic reed | | | | | | | Data sheets → Internet: sme |
|---|---|------------------|---|------------------|----------|----------------------------|-----------------------------|
| | Type of mounting | Switching output | Electrical connection, outlet direction of connection | Cable length [m] | Part no. | Type | |
| N/O contact | | | | | | | |
|  | Mounted on the DSM using sensor bracket SL-DSM-B | Contacting | Cable, 3-wire, in-line | 2.5 | 551365 | SME-10M-DS-24V-E-2,5-L-OE | |
| | | | Plug M8x1, 3-pin, in-line | 0.3 | 551367 | SME-10M-DS-24V-E-0,3-L-M8D | |

Proximity switches for size 63

| Ordering data – Proximity switches for T-slot, magnetoresistive | | | | | | | Data sheets → Internet: smt |
|---|--|------------------|-----------------------|------------------|----------|---------------------------|-----------------------------|
| | Type of mounting | Switching output | Electrical connection | Cable length [m] | Part no. | Type | |
| N/O contact | | | | | | | |
|  | Inserted in the slot from above, flush with the cylinder profile, short design | PNP | Cable, 3-wire | 2.5 | 574335 | SMT-8M-A-PS-24V-E-2.5-OE | |
| | | | Plug M8x1, 3-pin | 0.3 | 574334 | SMT-8M-A-PS-24V-E-0.3-M8D | |
| | | | Plug M12x1, 3-pin | 0.3 | 574337 | SMT-8M-A-PS-24V-E-0.3-M12 | |
| | | NPN | Cable, 3-wire | 2.5 | 574338 | SMT-8M-A-NS-24V-E-2.5-OE | |
| | | | Plug M8x1, 3-pin | 0.3 | 574339 | SMT-8M-A-NS-24V-E-0.3-M8D | |
| N/C contact | | | | | | | |
|  | Inserted in the slot from above, flush with the cylinder profile, short design | PNP | Cable, 3-wire | 7.5 | 574340 | SMT-8M-A-PO-24V-E-7.5-OE | |

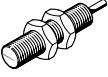
| Ordering data – Proximity switches for T-slot, magnetic reed | | | | | | | Data sheets → Internet: sme |
|---|---|------------------|-----------------------|------------------|----------|-------------------------|-----------------------------|
| | Type of mounting | Switching output | Electrical connection | Cable length [m] | Part no. | Type | |
| N/O contact | | | | | | | |
|  | Inserted in the slot from above, flush with the cylinder profile | Contacting | Cable, 3-wire | 2.5 | 543862 | SME-8M-DS-24V-K-2.5-OE | |
| | | | | 5.0 | 543863 | SME-8M-DS-24V-K-5.0-OE | |
| | | | Cable, 2-wire | 2.5 | 543872 | SME-8M-ZS-24V-K-2.5-OE | |
| | | | | 0.3 | 543861 | SME-8M-DS-24V-K-0.3-M8D | |
| N/C contact | | | | | | | |

Accessories

Inductive proximity switches for size 12 ... 40

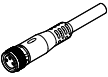
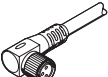
Ordering data – Proximity switches, inductive

Data sheets → Internet: sien

| | Thread | Contact | Connection | Part no. | Type |
|--|--------|---------|--------------|----------|-----------------|
|  | M5 | N/O | Cable, 2.5 m | 150370 | SIEN-M5B-PS-K-L |
| | | | Plug | 150371 | SIEN-M5B-PS-S-L |
| | M8 | N/O | Cable, 2.5 m | 150386 | SIEN-M8B-PS-K-L |
| | | | Plug | 150387 | SIEN-M8B-PS-S-L |

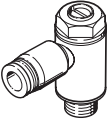
Ordering data – Connecting cables

Data sheets → Internet: nebu

| | Electrical connection, left | Electrical connection, right | Cable length [m] | Part no. | Type |
|--|-------------------------------|------------------------------|------------------|----------|----------------------|
|  | Straight socket, M8x1, 3-pin | Cable, open end, 3-wire | 2.5 | 541333 | NEBU-M8G3-K-2.5-LE3 |
| | | | 5 | 541334 | NEBU-M8G3-K-5-LE3 |
| | Straight socket, M12x1, 5-pin | Cable, open end, 3-wire | 2.5 | 541363 | NEBU-M12G5-K-2.5-LE3 |
| | | | 5 | 541364 | NEBU-M12G5-K-5-LE3 |
|  | Angled socket, M8x1, 3-pin | Cable, open end, 3-wire | 2.5 | 541338 | NEBU-M8W3-K-2.5-LE3 |
| | | | 5 | 541341 | NEBU-M8W3-K-5-LE3 |
| | Angled socket, M12x1, 5-pin | Cable, open end, 3-wire | 2.5 | 541367 | NEBU-M12W5-K-2.5-LE3 |
| | | | 5 | 541370 | NEBU-M12W5-K-5-LE3 |



Ordering data – One-way flow control valves

Data sheets → Internet: grla

| | For size | Connection Thread | For tubing O.D. | Material | Part no. | Type |
|--|------------|-------------------|-----------------|---------------|----------|------------------|
|  | 12, 16, 25 | M5 | 3 | Metal version | 193137 | GRLA-M5-QS-3-D |
| | | | 4 | | 193138 | GRLA-M5-QS-4-D |
| | | | 6 | | 193139 | GRLA-M5-QS-6-D |
| | 32, 40 | G1/8 | 3 | | 193142 | GRLA-1/8-QS-3-D |
| | | | 4 | | 193143 | GRLA-1/8-QS-4-D |
| | | | 6 | | 193144 | GRLA-1/8-QS-6-D |
| | 63 | G1/4 | 8 | | 193145 | GRLA-1/8-QS-8-D |
| | | | 8 | | 193147 | GRLA-1/4-QS-8-D |
| | | | 10 | | 193148 | GRLA-1/4-QS-10-D |

Ordering data – Centring sleeves for DSM-...-HD

Data sheets → Internet: zbh

| | For size | Description | Part no. | Type | PU ¹⁾ |
|--|--|--|----------|-------------|------------------|
|  | 12, 16 | For centring the drive in the case of side mounting | 8146544 | ZBH-7-B | 10 |
| | 25 | | 8137184 | ZBH-9-B | |
| | 32 ... 63 | | 8137185 | ZBH-12-B | |
| | 12 | For centring attachments on the rotating plate | 8146543 | ZBH-5-B | |
| | 16 ... 32 | | 8146544 | ZBH-7-B | |
| | 40, 63 | | 8137185 | ZBH-12-B | |
| | 12, 16 | | 8137185 | ZBH-12-B | |
| 25 | For centring attachments in the middle of the rotating plate | 191409 | ZBH-15 | | |
| 40, 63 | | 8023856 | ZBH-25 | | |
|  | 40, 63 | For centring attachments in the middle of the rotating plate | 150901 | SLZZ-2 5/16 | 1 |

1) Packaging unit